



# THE CONDUIT

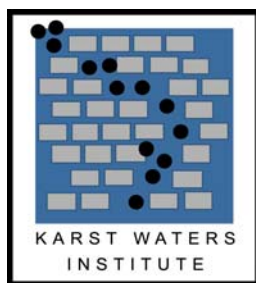
*Building understanding of karst  
through interdisciplinary action*

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## THE CONDUIT

*Building understanding of karst through interdisciplinary action*



The Conduit is an e-newsletter of the Karst Waters Institute, a 501(c)(3) nonprofit organization.

Karst Waters Institute, Inc.  
P.O. Box 4124  
Leesburg, Virginia 20177

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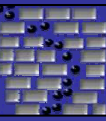
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*Front cover: Jon Jasper floating in the entrance of Gran Cenote, Quintana Roo, Mexico. Photo by Megan Porter.*



### Welcome to *The Conduit*

It has almost been one year since the relaunch of *The Conduit* last June. In 2009, the Karst Waters Institute circulated the newsletter to 760 people, and this issue will circulate to more than 800 cavers, students, karst scientists, and other folks interested in the mission of KWI around the world! Among those individuals, 27 countries are represented. This type of newsletter just takes word-of-mouth and pushing the 'send' button in an email. So, please... continue to pass along *The Conduit* to your friends. We are especially interested in making sure that students (both young and old) know about KWI.

This *Conduit* consist of news from past KWI activities, including the Annual Awards Banquet in March, as well as a write-up from Dr. Alexander Klimchouk about the 2009 "Hypogene Speleogenesis" conference in the Ukraine. The preliminary announcement for the 2011 KWI-sponsored "Carbonate Geochemistry: Reactions and Processes in Aquifers and Reservoirs" is included, as well as information for future karst-related (and KWI co-sponsored) conferences in 2010 and early 2011. One of those conferences is the 12th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst, which will be in St. Louis, Missouri.

This issue of the *Conduit* also contains a special feature "Where are they now?", which details the research of two of KWI's past William L. Wilson Scholarship for Karst Science recipients, Lindsay Walker and Megan Curry. Both Lindsey and Megan graduated with their MS degrees within the past few years, and it's great to read about their major research findings. The goal of the Wilson Scholarship is to attract and support new karst scientists to continue the research that Bill so deeply loved. In order to continue funding worthy students well into the future and as a legacy of KWI and Bill, KWI initiated a fund-raising campaign to increase the size of the current fund. More information can be found at <http://www.karstwaters.org/scholarship/wilsondonate.htm>

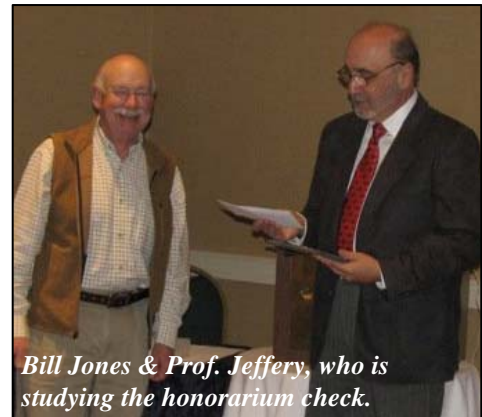
Articles, reports, and news of interest that relates to the mission and development of KWI are encouraged at any time.

-- Annette Summers Engel

### 2010 Annual Awards Banquet

The 2010 KWI Karst Awards banquet took place on Saturday evening, March 13, 2010, at the Sheraton Baltimore City Center Hotel. In attendance were 35 Karst Waters Institute guests, Board members, and affiliates from around the world. The Karst Award recipient this year was **Professor William R. Jeffery** of the University of Maryland – College Park. Professor Jeffery is not only the world expert on the developmental and evolutionary genetics of the Mexican Cave Tetra, *Astyanax mexicanus*, but he is also the author of countless scientific journal articles and books, and a past president of the Society for Developmental Biology. He is an avid caver, a life member of the National Speleological Society (#6609RL), owner of Henpeck Hill Cave in Tennessee, and a founding member of the D.C. Biospeleology Discussion Club. Dr. Jeffery's talk at the banquet was titled "Adaptation: The View from Blind Cave Fish," but he covered a range of topics dealing with the molecular and genetic basis of evolutionary changes in development

Also honored was the 7<sup>th</sup> Wilson Scholarship recipient, **Dalene Smith**, of Louisville, Kentucky. She completed her Bachelor of Science degree in Geology at Western Kentucky University (WKU), and she currently resides in Bowling Green, Kentucky while pursuing a Masters of Science in Geosciences at WKU. Her research interests include caves, karst, hydrology, hydrogeology, and geomorphology. She utilizes aspects of each of these disciplines in her research in regards to aquifer delineation in an island-karst environment.



Bill Jones & Prof. Jeffery, who is studying the honorarium check.



Dalene Smith, Wilson Scholarship recipient for 2010.



Prof. Jeffery presenting his research.

### KWI Happenings

#### Board and Institute Members Meet in Baltimore, Maryland

KWI met in Baltimore, Maryland, on March 13, 2010. The Board meeting was called to order, and there were four guests. Reports from the Education, Research, and Communications departments were submitted.

The morning bounced between the Board meeting and the Institute meeting in order to effectively discuss old and new business. The afternoon meeting was devoted to voting on agenda items. Several new policy statements passed, including that there can be foreign language translations of KWI publications deemed acceptable for research and/or educational purposes, and that no board member, staff member, or officer of KWI may provide testimony in name of Karst Waters Institute without Board authorization. KWI also voted to pursue joining the American Geological Institute (AGI). Several changes were made to the internal structure of KWI. New committees for Finance and Budget, Audit, Nominations, and Awards were appointed from the Board.

Attendees continued to discuss a cohesive 5-year plan for four KWI-sponsored conferences and other educational and training activities, which is a deviation in the past when conferences were organized, more or less, one by one. This strategy will allow KWI to seek funding opportunities for multiple years, rather than year by year. This exciting plan will provide various outlets for karst researchers, students, and enthusiasts to get involved with KWI in the future.

#### KWI and the American Geological Institute

As of late spring, KWI became a member society of AGI, an umbrella organization with other 47 member societies, including the National Speleological Society. One of AGI's roles relates to geoscience education, and it strives to increase public awareness of the importance of geological resources, natural hazards, and the health of the environment. More information about AGI's activities can be found at <http://www.agiweb.org/>.

### William L. Wilson Scholarship Fundraising Campaign

Each year, KWI awards the William L. Wilson Scholarship to a worthy Master of Science graduate student, which comes with a one-time award of \$1000. The awards are competitive, and are meant not only to offset ever-increasing costs of doing research, but also to stimulate the development of a new, energetic, motivated, and creative karst scientist. The award was established in Bill Wilson's memory and honors his dedication to karst science. For the next year, KWI has an ongoing fundraising campaign to **increase the size of the current fund**. Information can be found on the KWI website if interested in making tax-deductible contributions- <http://www.karstwaters.org/scholarship/wilsondonate.htm>.

### Upcoming Karst Meetings

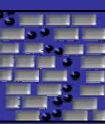
**2010 National Speleological Society Convention** August 2-6, 2010; Vermont, USA <<http://www.nss2010.com/default.php>>  
Early registration deadline has been extended to June 29, 2010 (save \$20).

**12th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst**  
January 10-14 2011; St. Louis, Missouri, USA. <<http://www.pela.com/sinkhole2011.htm>>

The goal of this conference is to share knowledge and experience among disciplines by emphasizing scientific and technological aspects of karst that have practical applications, together with case histories of those applications. Since karst topography impacts ground and surface water resources, waste disposal and management, highways and other transportation facilities, structural foundations and utilities and other infrastructure, civil, geotechnical and environmental professionals should all attend this most relevant conference.

**Abstracts must be submitted by July 1, 2010.** Each abstract must be written in English and should be a brief, concise summary of results; it is limited to one page and the contents should not have been published previously. Abstracts should include names, titles, affiliations, and complete mailing address, telephone and fax numbers, and e-mail address of each author and co-author. Accepted abstracts will be assigned to appropriate sessions. Notification of acceptance and full format and submission instructions will be emailed to authors and co-authors. The full manuscript must be received by October 1, 2010. All manuscripts will be peer reviewed and the reviewers' comments will be returned to the author by November 15, 2010. A final Camera-ready paper must be received by February 15, 2011, for publishing in the conference proceedings. If an acceptable camera-ready copy of the manuscript is not received, the paper will be removed from the proceedings. If the paper is not presented at the conference it will not be included in the proceedings.

**6th International Conference: Climate Change – The Karst Record** June 27-30, 2011; Birmingham, UK.  
<<http://www.gees.bham.ac.uk/research/clusters/geosystems/kr6conference.shtml>>



### Feature: Where Are They Now? Research summaries from past William L. Wilson Scholarship recipients

#### Caving in Paradise: The 2005 William L. Wilson Scholarship in Karst Science

- Text and figures submitted by Lindsay Walker  
 Canmore Museum & Geoscience Centre, Canmore, AB, Canada



I received the William L. Wilson Scholarship in Karst Science in 2005 to help fund my Master's Thesis research on Abaco Island, Bahamas. My work on Abaco had three main objectives: 1) to conduct a preliminary geological overview of the island, 2) to map the occurrence of caves and karst features, and 3) to investigate the possibility of cone karst landforms. Upon completion of my thesis, I published three manuscripts with the help of my co-authors, each focusing on one of the above points. The references are listed below for your interest.

Prior to this study, very little geological work had been conducted on Abaco. Our work showed that the geology of Abaco is similar to that of other Bahamian Islands and fits within the accepted Bahamian stratigraphy. Outcrops are dominantly composed of Pleistocene eolianite packages separated by terra rosa paleosols with some subtidal and beach facies preserved in the younger packages. The eolian, beach, and subtidal facies are deposited during sea level highstands, when the carbonate platform is flooded, while the paleosols record sea level lowstands, when the platform is exposed. The Pleistocene rocks are sometimes overlain by Holocene eolian and beach facies. The Holocene rocks are not overlain by a paleosol, as there has been no lowstand since their deposition.

Karst features on Abaco include flank margin caves, karren, blue holes, pit caves, and banana holes. Flank margin caves, the most significant of these features, form as a result of mixing dissolution at the margin of the fresh-water lens. Because the margin of the lens is concordant with sea level, flank margin caves mark the position of sea level during their formation. Hunter's Cave (Figs. 1 & 2) is an example of a flank margin cave. The inside walls show the original eolian bedding truncated by phreatic dissolutional surfaces (Fig. 2).

Pseudokarst features on Abaco include tafoni caves and cone-shaped hills that resemble tropical cone karst. Tafoni caves in the Bahamas are formed when the hard, outer calcrete crust of an eolian dune is removed, exposing the soft inner layers to erosion. The cone hills are the result of the dissection of hummocky eolianite ridges by both karst and mechanical processes. This erosion results in talus slopes, which along with vegetative cover can mask the original asymmetrical profile of the dune (Fig. 3). The pseudokarst features are significant as they can often be mistaken for karst features by the untrained observer. The tafoni caves, for example, can be confused with flank margin caves, leading to incorrect estimates of past sea levels.

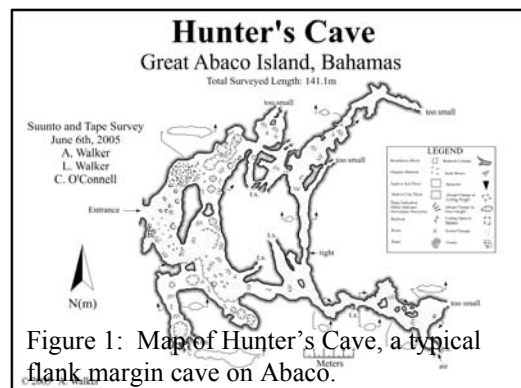


Figure 1: Map of Hunter's Cave, a typical flank margin cave on Abaco.

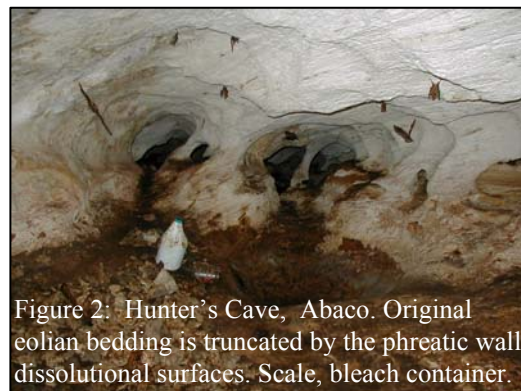


Figure 2: Hunter's Cave, Abaco. Original eolian bedding is truncated by the phreatic wall dissolutional surfaces. Scale, bleach container.

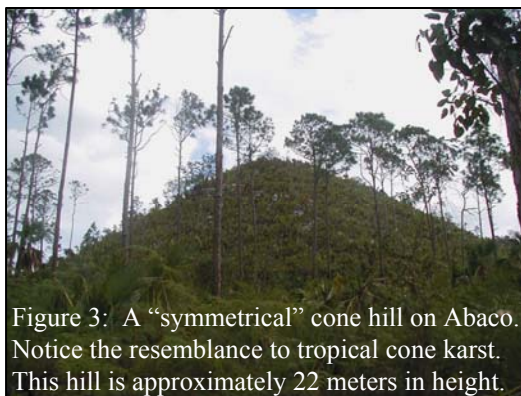


Figure 3: A "symmetrical" cone hill on Abaco. Notice the resemblance to tropical cone karst. This hill is approximately 22 meters in height.

Walker, L.N., 2006, The caves, karst, and geology of Abaco Island, Bahamas. MSc thesis, Mississippi State University, 241 p. <http://library.msstate.edu/etd/show.asp?etd=etd-03292006-153441>

Walker, L. N., Mylroie, J. E., Walker, A. D., and Mylroie, J. R., 2008a, A preliminary geologic reconnaissance of Abaco Island, Bahamas, in Freile, D., and Park, L., eds., Proceedings of the 13th Symposium on the Geology of the Bahamas and Other Carbonate Regions, San Salvador, Bahamas, Gerace Research Centre, p. 89-97.

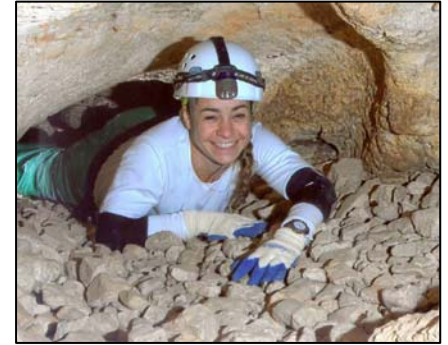
Walker, L. N., Mylroie, J. E., Walker, A. D., and Mylroie, J. R., 2008b, The Caves of Abaco Island, Bahamas: Keys to Geologic Timelines: *Journal of Cave and Karst Studies*, v. 70, p. 108-119.

Walker, L.N., Mylroie, J.E., Walker, A.D., and Mylroie, J.R., In Press, Symmetrical cone-shaped hills, Abaco Island, Bahamas: karst or pseudokarst?: *Journal of Cave and Karst Studies*.

### Moonmilk Research: The 2007 William L. Wilson Scholarship in Karst Science

- Text submitted by Megan Denise Curry  
Waco, Texas

I received the William L. Wilson Scholarship in 2007. During that time, I was at New Mexico Institute of Mining and Technology, in Socorro, New Mexico, doing my MS thesis research, "A geomicrobiological and geochemical approach to the biogenicity of moonmilk formation: Spider Cave and Pahoehoe Cave, NM; Thursday Morning Cave, CO; Thrush Cave and Cataract Cave, AK."



Moonmilk is a general term applied to white, pasty deposits that occur in a wide variety of cave environments across the world. More precisely it consists of a two-phase (solid/liquid) speleothem that is a porous authigenic microcrystalline mineral aggregate with variable mineralogies that form within various lithological subterranean cavities. Many secondary deposits within caves (speleothems) are known to be the result of primarily physiochemical processes. However, moonmilk does not appear to be explainable via the same abiotic mechanisms, and does not have the same morphologies and textures as traditional speleothems (i.e., stalagmites and stalactites). Moonmilk differs from other speleothems in its high biomass content, high porosity, high water content, variable mineralogy, and needle-fiber crystal morphology. Several explanations have been proposed concerning the origin of moonmilk, however, the body of work is sparse and the origin still unclear. A microbial role is suggested by the presence of needle-fiber calcite, mineral encrustation around microbial filaments, and significant biofilm content. To explain its observed physical, chemical, and biological properties, we hypothesize that moonmilk is the product of a passive, microbially-mediated disaggregation of host rock and reprecipitation of carbonate from bedrock in a groundwater seepage-driven evaporative process. In order to test the degree to which moonmilk is the product of biological activity, this study distinguishes the biotic components and interactions from abiotic ones.

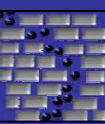
All moonmilks from this study displayed a significant organic carbon presence available for potential heterotrophic activity. Amongst the different study sites there were similar total microbial cell counts exhibiting a significant microbial presence. In addition, in situ inoculation of samples into calcium salts media produced mineralization but not in controls. Thus, this result shows the potential for isolates to produce biologically-induced mineralization under appropriate conditions. Molecular results revealed that moonmilk isolates, from Pahoehoe Cave, were grouped with common soil bacteria taxa and were related to other bacteria from lava tube and freshwater microbial mats.

Independent of depositional environment and climate, e.g. alpine to desert, the moonmilks displayed micrometer-scale calcite needle-fiber morphology and significant biotic components such as filaments, filamentous mats, cellular bodies, and biofilm. Yet, the deposits displayed changes in macroscopic and microscopic morphological and textural characteristics, and isotopic signatures associated with the relative age and environmental influences. Macroscopic textural and structural integrity is dependent on depositional environment. Cottonballs are peculiar moonmilk-like subaqueous calcite deposits that are also composed of microcrystalline needle-fiber aggregates and heavily entwined within a mass of microbial filaments. The differences observed between the subaerial moonmilk and cottonballs may be largely attributed to the changes in the depositional environment, namely in air or water. Stable isotopic signatures among the moonmilk varied and, thus, reflected a consortium of various environmental carbon sources and processes associated with each site. Not all moonmilk is biologically active when collected. The presence of different crystal morphologies (i.e., stacked rhombohedra) in hydrologically inactive deposits suggests that potential diagenesis may have occurred.

The highly distinctive appearance of moonmilk at spatial scales from macroscopic to microscopic potentially makes it a very valuable subsurface biosignature. Understanding this aspect is critical to future interpretation of any such materials in an extraterrestrial context. This research can aid the understanding of microbial roles in biomineralization, particularly of carbonates. Further, such material can serve as a biosignature representative of a significant subsurface set of processes here on Earth of potential application to future missions for life detection in extraterrestrial subsurface sites.

Curry, M.D., 2009, A Geomicrobiological and Geochemical Approach to the Biogenicity of Moonmilk Formation: Spider Cave and Pahoehoe Cave, NM; Thursday Morning Cave, CO; Thrush Cave and Cataract Cave, AK. MSc thesis, Dept of Earth & Environmental Science, New Mexico Tech.

Curry, M.D., Boston, P.J., Spilde, M.N., Baichtal, J.F., and Campbell, A.R., 2009, Cottonballs, a unique subaqueous moonmilk, and abundant subaerial moonmilk in Cataract Cave, Tongass National Forest, Alaska. *International Journal of Speleology*, vol. 38, p. 111-128.



### Recent KWI Activities at International Conferences

#### International Conference: Hypogene Speleogenesis & Karst Hydrogeology of Artesian Basins

Chernivtsi, Ukraine, May 13-17, 2009

*-- Text and photographs submitted by Dr. Alexander Klimchouk*

The International Conference "Hypogene Speleogenesis & Karst Hydrogeology of Artesian Basins" was held in Chernivtsi, Ukraine, May 13-17, 2009. It was organized under auspices of the Union International of Speleology (UIS) and its Commission on Karst Hydrogeology and Speleogenesis, International Geoscience Program 513 "Global Study of Karst Aquifers and Water Resources" (UNESCO) and the International Year of Planet Earth (UNESCO-IUGS).

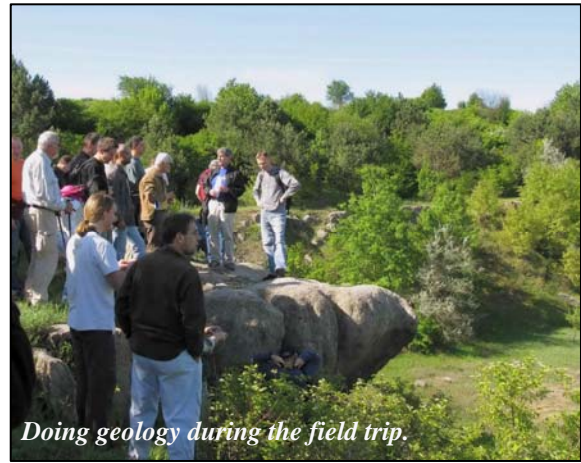
The principal organizer of the Conference was the Ukrainian Institute of Speleology and Karstology (UISK). The co-organizers and sponsors of the Conference include:

- Fed'kovich Chernivtsy National University, Ukraine
- Vernadsky Tavrichesky National University, Ukraine
- Institute of Geological Sciences, National Academy of Science, Ukraine
- National Cave and Karst Research Institute, USA
- Karst Waters Institute, USA
- Silesian University, Poland
- Katowice Section of the Polish Geographic Society, Poland
- Ukrainian Speleological Association

The current surge in recognition of the broad occurrence and significance of hypogene speleogenesis (i.e. speleogenesis driven by groundwater and aggressiveness coming from depth), as well as of its marked specifics in comparison to better studied epigenic (hypergenic) karst (i.e. karst formed by groundwater coming from the overlying or immediately adjacent surfaces) has stimulated intense theoretical and regional studies on the topic worldwide. Timely exchange of ideas and results of ongoing studies is particularly important during this period. The Conference,



*Overview of Western Ukraine gypsum karst.*



*Doing geology during the field trip.*



*Separated at birth? I. Sasowsky (left) and A. Klimchouk (right).*



*Zoloushka Cave, a 92-km long maze lying beneath the Ukraine-Moldova border.*



*Every good conference needs a great banquet!*

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therefore, aimed to provide such a possibility, and to overview the current developments and advances in the area. The specific reason for conducting this Conference in the Western Ukraine was the representativeness of the region and its caves for the evolving theory of hypogene speleogenesis.

The Conference venue was the historic main building of the Fed'kovich Chernivtsi National University and the Bukovina Hotel in Chernivtsi.

Fifty three scientists and cave explorers have attended the Conference, representing 23 nations including: Australia, Austria, Brazil, Canada, France, Great Britain, Germany, Greece, Iraq, Israel, Italy, Mexico, Norway, Poland, Russia, Romania, Slovenia, Spain, Switzerland, Turkey, Ukraine, and United States.

During two days of scientific sessions (13 and 14 of May) thirty-three papers were presented. The Conference has culminated with a panel discussion centered on the problem of definition and criteria of identification of hypogene speleogenesis. The very stimulating and thoughts-provoking discussion have revealed many aspects still to be studied and clarified, as one could expect for the rapidly evolving area. It is quite evident, however, that the growing understanding of the nature, regularities, and the broad occurrence of hypogene speleogenesis signifies the ongoing change of the karst paradigm and is of a great importance for theoretical karstology and geospeleology. This understanding is also crucial for our ability to adequately resolve problems related to the protection and management of karst groundwater resources, for karst sinkhole/subsidence hazard prediction and mitigation, as well as for prospecting and exploration of oil and gas resources and other economic deposits.

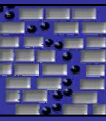
During the following three days (May 15-17), field trips through the gypsum karst of the Western Ukraine were taken. The trips served to illustrate scientific and practical aspects of hypogene speleogenesis, karst hydrogeology of artesian basins, and engineering geology of covered karst. The trips were designed to demonstrate a spectrum of evolutionary types of karst and some of the outstanding gypsum caves present in the region, including Kristal'na, Yubileyna, Ozerna and Zoloushka caves. The latter two are among the world longest caves, with their respective lengths of 128 and 92 km. Although the Conference participants have visited the area around Optymistychna Cave, the second longest cave in the world and the longest one in gypsum, it was not possible to visit this cave because the morphology of its entrance series is not suitable for quick visits by large groups. The field trips also included a number of sites of cultural importance. The Conference participants gratefully acknowledged the assistance of cavers from the speleological clubs of Ternopil, Chernivtsi, and Kishinev (Moldova) in arranging the visits to the caves that they explore and manage.

For the Conference, the organizers published the proceedings volume containing full texts of most papers and several books relevant to the topic (see references on pg 9), which were valuable contributions to the upcoming 15th International Congress of Speleology (July-August 2009, Kerrville, USA).

By the unanimous opinion of the participants, the Conference has been of a great success. It continued a topical series that started with the Hypogene Speleogenesis Symposium held within the GSA Meeting in Houston, USA, in October 2008, organized by the US National Cave and Karst Research Institute. In light of the rapid developments in the field, it seems desirable to have specific events on Hypogene Speleogenesis regularly during the next several years.



*2009 "Hypogene Speleogenesis" Conference participants, Chetnivtsy University, Ukraine.*



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Several publications were associated with the **Hypogene Speleogenesis & Karst Hydrogeology of Artesian Basins** conference:

Klimchouk, A.B. and Ford, D.C. (eds.). Hypogene Speleogenesis and Karst Hydrogeology of Artesian Basins. Ukrainian Institute of Speleology and Karstology, Special Paper 1, Simferopol, 2009. - 292 pp. ISBN 978-966-2178-38-8. (NOTE: KWI is listed in book as being the "Karst Water Institute, USA")

The volume contains papers presented during the International Conference held May 13 through 17, 2009 in Chernivtsi, Ukraine. Contents are listed at: [http://www.network.speleogenesis.info/directory/bibliography/karstbase/item\\_view.php?biblio\\_id=9748](http://www.network.speleogenesis.info/directory/bibliography/karstbase/item_view.php?biblio_id=9748)

Klimchouk A.B., Andreychouk V.N., and Turchinov I.I. The structural prerequisites of speleogenesis in gypsum in the Western Ukraine. The 2-nd edition, revised. University of Silesia - Ukrainian Institute of Speleology and Karstology, Sosnowiec-Simferopol. - 97 p. ISBN 978-83-87431-94-5

In this book geological the conditions of speleogenesis in the Miocene gypsum in the Western Ukraine are characterized, particularly the role of lithological and structural prerequisites in speleogenesis. The special attention is given to structural and textural unhomogeneities in the gypsum stratum and to their role in the formation of fractures. Fracture networks in the gypsum and the structure of the unique maze cave systems are examined in details. It is shown that speleo-initiating fractures in the gypsum strata belong to the lithogenetic type and form largely independent multi-storey networks, with each storey being confined within a certain vertical structural/textural zone (unit) of the stratum. This determines the multi-storey structure of the caves in the region.

Two problems related to structural and textural characteristics of the gypsum stratum are discussed in details: the formation of giant dome structures by way of gypsum recrystallization during the synsedimentary and early diagenesis stages, and the genesis of fractures. Speleogenetic realization of the existing structural prerequisites occurred under conditions of a confined multi-storey artesian aquifer system due to an upward flow across the gypsum from the under-gypsum aquifer. The book may be of interest for karstologists, speleologists, engineering geologists, hydrogeologist, as well as for those who study lithology and petrography of evaporates. Tables 2, ill. 29, bibl. 67. [http://www.network.speleogenesis.info/directory/bibliography/karstbase/item\\_view.php?biblio\\_id=9749](http://www.network.speleogenesis.info/directory/bibliography/karstbase/item_view.php?biblio_id=9749)

Andreychouk V., Dublyansky Y., Yezhov Y., and Lysenin G. Karst in Earth-s Crust: distribution and the main types. University of Silesia - Ukrainian Institute of Speleology and Karstology, Sosnowiec- Simferopol, 2009. - 72 pp. ISBN 978-83-87431-93-8

Some problems of theoretical karstology are considered. An attempt is made to match the fundamentals of karstology and recent ideas on the structure of lithosphere and the vertical zoning of hydrosphere. Boundary conditions of karstogenesis and karst zoning are discussed. The boundaries and the structure of karstosphere, as well as the place of karst among other geological processes are defined. The book is of interest for karstologists, hydrogeologists, geologists and geographers. [http://www.network.speleogenesis.info/directory/bibliography/karstbase/item\\_view.php?biblio\\_id=9750](http://www.network.speleogenesis.info/directory/bibliography/karstbase/item_view.php?biblio_id=9750)

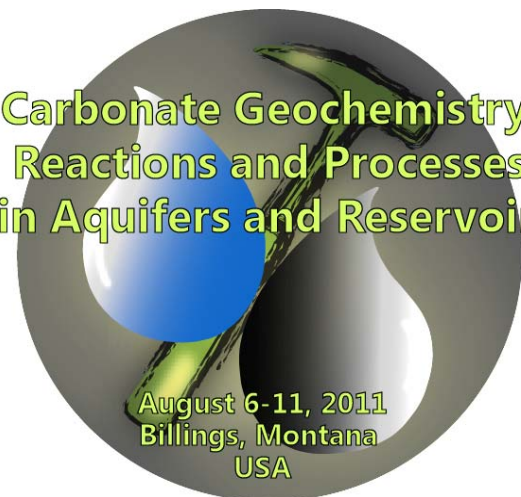
## Upcoming KWI Conference in 2011

The Karst Waters Institute meeting, "**Carbonate Geochemistry: Reactions and Processes in Aquifers and Reservoirs**," will be held at the Crowne Plaza Billings, Montana, from August 6-11, 2011. There will be a multiple-day field trip following the conference to the Big Horn Basin, Wyoming.

To date, the Organizing Committee includes: Dr. Laura Crossey, University of New Mexico; Dr. Gregor Eberli, University of Miami; Dr. Robert Goldstein, University of Kansas; Dr. Janet Herman, University of Virginia; Dr. Brian Katz, United States Geological Survey; Dr. Marco Menichetti, Università di Urbino; Dr. William White, Pennsylvania State University. The Field Trip Committee includes: Mr. Bob Stewart, ExxonMobil; Dr. Art Palmer, SUNY – Oneonta; Dr. John Mylroie, Mississippi State University; Dr. Mark Sonnenfeld, Whiting Petroleum.

Details regarding invited speakers, abstract submission deadlines and guidelines, and conference and field trip logistics will be provided soon. Direct questions, comments, or ideas to co-conveners Annette Engel ([aengel@lsu.edu](mailto:aengel@lsu.edu)), PJ Moore ([pj.moore@exxonmobil.com](mailto:pj.moore@exxonmobil.com)), or Harvey Duchene ([hduchene@comcast.net](mailto:hduchene@comcast.net)).

## Carbonate Geochemistry: Reactions and Processes in Aquifers and Reservoirs



### Announcement for the 2011 William L. Wilson Scholarship

To stimulate the development of new, energetic, motivated, and creative karst scientists, and to remember the person of Bill Wilson and his dedication to karst science, the scholarship has been established in his memory. The value of the scholarship as a one-time award is \$1,000. To apply for the William L. Wilson Scholarship, the following are required:

The applicant must be currently enrolled in, or have been accepted into, a masters degree program at an institution of higher education in the United States. PhD students are not eligible.

A written proposal of the planned karst study must be submitted. It is limited to 1000 words or less for the narrative, not counting figure captions and references. The research topic should be one concerning karst science, from the field of geochemistry, geology or hydrology. A very simple budget indicating how the funds would be used should also be included (it does not count in the 1000 word limit). Applicants are requested not to recycle master's thesis proposals as applications.

Academic transcripts of undergraduate, and any graduate work, should be submitted. Copies issued to the student by their institution are preferred, and can be sent as e-mail attachments.

Two letters of recommendation, with one of them from the student's advisor or mentor, should be submitted. It is requested that these letters be submitted as e-mails by the letter writers.

**Applications are due by February 15 of each year.** They should be submitted electronically as a single pdf file (application, transcripts, etc.) to:

Dr. John E. Mylroie, Department of Geosciences, Mississippi State University, Mississippi State, MS 39762  
mylroie@geosci.msstate.edu

Questions regarding the scholarship should be addressed to Dr. Mylroie. Applicants will be notified in early March of the decision of the Scholarship Committee. Publications derived from supported research should acknowledge the Karst Waters Institute and the William L. Wilson Scholarship.

### KWI Sessions at Geological Society of America Meeting, 2010

**Geological Society of America** There will be several KWI co-sponsored sessions at the national meeting in Denver, Colorado (October 31 – November 3, 2010). **Abstracts are due Aug. 10, 2010!!!** See <[www.geosociety.org](http://www.geosociety.org)> website for more information.

#### **T8. Flow in Fractured and Karstic Aquifers: Models and Methods**

*GSA Hydrogeology Division; U.S. National Chapter of the International Assoc. of Hydrogeologists; Karst Waters Institute*

Convenors: Carol Wicks, Todd Halihan. Session details: Fractured and karstic aquifers remain difficult to characterize, but significant advances have been made in field methods and modeling of flow and transport through these systems. This session will examine these advances.

#### **T52. Karst Environments: Problems, Management, Human Impact, and Environmental Sustainability (Posters)**

*GSA Hydrogeology Division; National Cave and Karst Research Institute; Karst Waters Institute; GSA Quaternary Geology and Geomorphology Division*

Convenors: Robert Brinkmann, Mario Parise. Session details: Karst systems are among the most fragile and vulnerable environments in the world. This session will explore current research on how humans are interacting with karst with a focus on management and sustainability.

#### **T118. Filling the Hole: Sedimentary Geology and Paleontology of Caves and Karst**

*Paleontological Society; Karst Waters Institute; Society for Sedimentary Geology (SEPM); GSA Sedimentary Geology Division; GSA Archaeological Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Geobiology & Geomicrobiology Division*

Convenors: Roy Plotnick, Ira D. Sasowsky. Session details: The spaces produced by karstification can protect portions of the surface fossil and stratigraphic record otherwise removed by subsequent erosion. This session will include talks on the sediments and fossils preserved in these environments.

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