



The Newsletter of the Heritage Stones Subcommittee
A Subcommittee of the International Union of Geological Sciences
N° 5

Compiled and edited by **Lola Pereira**

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1. Welcome to the 2017 HSS newsletter

Welcome to our new Newsletter! It is our pleasure to share with all of you the involvements and activities of this Group with the aim that you get involved into them as much as possible. We hope to get to you once a year and to get the feedback from you to improve it every issue! This is the fifth issue. Find previous newsletters in our website!

The Newsletter will only be available electronically. It can be download at <http://www.globalheritagestone.com>

2. An overview of the HSS

For those of you that are new in the network, **HSS** is a Working Group, formally established as Heritage Stone Task Group by the International Union of Geological Sciences (IUGS) in 2011, with an initial administrative Board of Management being appointed at the 34th International Geological Congress in Brisbane for the period 2012-2016, and renewed at the 35th IGC in Cape Town, South Africa, for the period 2016-2020. **A new board will be elected during the 36th IGC in New Delhi, 2020. Expressions of interest to be part of the new board are welcome, while we prepare the best way for a transparent election.**

HSS had earlier origins in 2008 as a project within Commission (C-10) - Building Stones and Ornamental Rocks of the International Association for Engineering Geology and the Environment (IAEG C-10) that was recognised at its meeting during the 33rd International Geological Congress in Oslo, Norway.

The second executive board of the working group is made up of:

Chair

Björn Schouenborg (Sweden)

Secretary General

Lola Pereira (Spain)

Vice-chairs

Barry Cooper (Australasia)

Brian R. Pratt (N America)

Piero Primavori (Europe)

Gurmeet Kaur (South Asia)

M Heloisa Barros de Oliveira Frascá (S America)

HSS retains its link with IAEG C-10.

The objectives of HSS are:

- To facilitate formal designation of natural stones that have achieved widespread recognition in human culture (i.e. heritage stones).
- To create the “Global Heritage Stone Resource” (GHSR) as an internationally recognised heritage stone designation.
- To promote the adoption and use of heritage stone designation by international and national authorities.

One of the urgent matters of the subcommission was to review the activity of the so-called “correspondents”. At present, the number of correspondents is 105, representing 28 countries. We welcome the new correspondents and thank their engagement in our activities!

We have created a new body within the subcommission: an **Advisory Panel**. This Panel will give advice and will be empowered to make recommendations to the executive board. This panel is made up of correspondents that sent a positive reply to the enquiry from the Secretary General. The composition of the Panel, after HSS board consultation, is made up by:

Lidia Catarino (Portugal)
Brian Marker (UK)
Marcos Musso (Uruguay)
Luís Lopes (Portugal)
JoAnn Cassar (Malta)

Jana Horak (UK)
Jan Elsen (Belgium)
Antonio Gilberto Costa (Brazil)
Nicola Careddu (Italy)

Some of the main tasks of the advisory panel will be related to the review (and finding reviewers) for our special publications and the Global Heritage Stones and Global Heritage Provinces initiatives, being reviewers for the published stones that are potential candidates for the GHSR designation, as well as to act as conveners during the conferences sessions linked to our group. We acknowledge the constant help of some of you and many other colleagues that volunteered for these actions.

The advisory panel will be reviewed and updated annually, to make sure that we keep an active group of advisors. After receiving this Newsletter, with the updated composition of the Advisory Panel, any other correspondent that feels like joining to help, please send a message to Lola Pereira, expressing the interest in collaborating. New additions can be made until 15th of February 2019, if in need.

The administration of the Group is done by our web page: <http://globalheritagestone.com/>. The maintenance of the web page is mainly done by Lola Pereira, with updates as frequently as possible.

3. Recent activities: Activities in 2018 and contributions from our correspondents

- ICG board met in Paris the 1st of June 2018. The agenda was:
 - Discussion of proposals for changes to Terms of Reference of the ICG and the HSCS, and links to the ToR of the HSS. The ToR will be taken to the next IUGS EC meeting for final approval.
 - Review and discussion of funding proposals for 2019, based on received budget from IUGS (including accounting and expenses reimbursement procedures)
 - Website management for Subcommissions and Commission: The web site of the HSS is updated and maintained by Lola Pereira.

- Activities in 2018

General scientific achievements

During 2018 we were able to review and designate seven new global heritage stones: Maltese Globigerina Limestone, Jacobsville Sandstone, Lede stone Welsh Slate, Piedra Mar del Plata, Kolmården serpentine marble, and Lioz limestone. The IUGS EC also approved a design for ratified Heritage Stone Resources for posters to be placed with local government agencies or communities and for educational purposes.



Villamayor stone: GHSR designation

Global Heritage Stone Resource (GHSR) is a concept developed by the Heritage Stones Subcommittee (HSS), a working group of the International Union of Geological Science (IUGS). This designation can be achieved after following a strict evaluation procedure. The designation aims to develop internationally accepted standard approaches to the reporting of technical and aesthetic characteristics of natural stones used for repair and maintenance of historic buildings, monuments and structures as well as for new construction.

The GHSR standard helps to increase awareness of the potential uses of various important stones and provide important information for those engaged in using stone for repair and maintenance. Stones that have been used in heritage construction and sculptural masterpieces, as well as in utilitarian (yet culturally important) applications are obvious candidates for GHSR status.



Historic quarry of Villamayor stone

To deserve the status of GHSR, the stone has to meet, at least, the following requirements:

- Wide-ranging geographic application and/or historic use for a period of at least 50 years, but preferable centuries.
- The potential candidate dimension stone should also have been utilised in significant public or industrial projects
- There should be wide recognition of the stone for its cultural importance, including association with identity or a significant contribution to architecture at international, national, regional or local level.
- It is beneficial that stone remains available in quarries, even if these quarries are not active anymore.

Clearly, Villamayor sandstone accomplishes all the requirements.



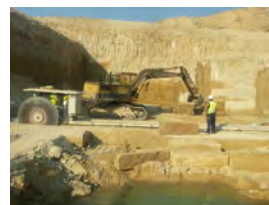
Today, sandstone is marketed as slabs, but during the construction on Salamanca buildings, it was extracted and transported as blocks.

Villamayor sandstone is very wet when it is quarried, which makes the task easier. Taking advantage of this feature, stonecutters hewed the stone in the quarry and then brought it to the city. As a result, the cost of transporting the stone was lower, as it weighed less. Over time Villamayor sandstone loses moisture, becoming hard and robust.

Villamayor sandstone is one of the first natural stones recognized as Global Heritage Stone Resource, achieving its designation in 2017 after the approval of the IUGS Executive Committee (www.globalheritagestone.com)



The "Rich" façade of the University building



Extraction of blocks of Villamayor sandstone



Thanks to the ease of carving when wet, the golden stone acquired the beautiful shapes we can now admire in façades of historic buildings in Salamanca, representing the Plateresque style.

Authors: Lola Pereira (HSS Secretary General) and Ana del Arco

Meetings

- Global Stone Congress 2018 (24-April/2-May, 2018)
 - 170 participants from 12 countries

The Global Stone Congress (GSC) held its 6th meeting in Ilheus (Bahia), Brazil, from 26th to 29th of April. The aim of this Congress was to assemble international participants interested in natural stones, from geologist to architects, designers, engineers, representatives of research and teaching institutions and technological centers linked to the natural stone industry. More than 150 persons attended the Congress which included sessions on Architecture, Technology, Sustainability and Workshops for discussion and to promote debate on current challenges related to natural stones. More information of the meeting can be found at:

<http://www.globalstonecongress2018.com.br/presentation.htm>

ABIROCHAS and CETEM were the main promoters of the GSC. Maria Heloísa Barros de Oliveira Frascá, member of the board of the IUGS HSS, was one of the organizers. Several members of the HSS were invited as speakers, having the opportunity to promote the IUGS activities associated with natural stones. Some other HSS members participated in the Congress with IGCP-637 financial help.

Björn Schouenborg, Piero Primavori and Lola Pereira thank the organizers for the invitation.



Participants of the Global Stone Congress at the Blue Bahía Stone quarry

- I Workshop on Heritage Stones (2-4 of October, 2018)
 - 49 participants from 16 countries



I Workshop on Heritage Stones. Poster Session

Early career researchers were part of the organizing committee of the I Workshop on Heritage Stones. Some of them had participated in an ERASMUS Intensive Program on Geoheritage, under the guidance of the leader of the meeting that made a call to recruit them for the organization of the Workshop.

The following 16 countries were represented at the I Workshop on HS:

Argentina
 Australia
 Brazil
 Colombia
 Germany
 India
 Italy
 Malta

Morocco
 Norway
 Portugal
 Romania
 Slovenia
 Spain
 Sweden
 USA

Seven researchers from developing countries (as stated by UNESCO 2017) attended the I Workshop on Heritage Stones. Four of them were female researchers and they all had an active role as participants. One was also an invited speaker and participant of a round table session. From the seven researchers, five were partially funded with IGCP resources. More information can be found at the 2018 IGCP report in our web page.

Publications

Proceedings of the Global Stone Congress 2018

https://1drv.ms/b/s!Ai38zqcXGdM_h4swDsGLEw5JibAC_w

Proceedings of I Workshop on Heritage Stones

https://issuu.com/home/published/compilacion_abstract_reducido

- Freire-Lista, D and Fort, R. (2018) Historical City Centres and Traditional Building Stones as Heritage: Barrio de las Letras, Madrid (Spain). *Geoheritage*. <https://doi.org/10.1007/s12371-018-0314-z>
- Navarro, R., Pereira, D., Gimeno, A. del Barrio, S. (2018) Influence of natural carbonation process in serpentinites used as construction and building materials. *Construction and Building Materials* 170, 537–546
- Pereira, D., González Neila, C., del Arco, A. (2018) Salamanca, city of Stone and Heritage. Diputación de Salamanca.



Due to the celebration of the I Workshop on Heritage Stones during the 800th anniversary of the University of Salamanca, many media reports were published in local papers, university of Salamanca and other institutions web pages, IUGS Social Media... Following are some links:

- <https://saladeprensa.usal.es/node/115647>
- <https://saladeprensa.usal.es/node/115673>
- <https://www.lagacetadesalamanca.es/salamanca/2018/10/02/restauraciones-anos-70-peligro-titulo/249817.html>
- <http://www.villamayor.es/noticias/villamayor-sigue-presente-en-el-viii-centenario-con-su-piedra-i-workshop-on-heritage-stones.html>
- <https://www.salamanca24horas.com/albums/view/58800/i-workshop-on-heritage-stones>
- <https://www.facebook.com/iugspage/posts/the-i-workshop-on-heritage-stones-at-salamanca-from-2nd-to-4th-october-was-a-big/1682162815256984/>

Also, the online Global Magazine for Architecture, Art and Design with Natural Stone published an article with the achievements of the IGCP:

<https://www.stone-ideas.com/64790/global-heritage-stone-resource-ghsr/>

OPEN FOR SUBMISSIONS: "Sustainability" Special Publication

In the frame of our I Workshop on Heritage Stones in Salamanca, October 2018, we have launched a special issue that will be accepting paper submissions until June 2019. This special issue is not only for participants in the workshop, but for all correspondents that wish to publish their original work on heritage stones.

The special issue is called: "**Natural Stone and Architectural Heritage**"

The journal Sustainability is a Q2 journal, with a 2017 impact factor of 2,075. The link to the special issue for submissions is:

http://www.mdpi.com/journal/sustainability/special_issues/nsah

Every correspondent interested in publishing in this Special Issue should look into the details provided through the link.

Contributions from our correspondents.

Contribution sent by Barry Cooper:

Cultural Geology and Heritage Stone Session – Annual General Meeting, Geological Society of America, Indianapolis, Indiana, USA, 4-7 November 2018

Eleven heritage stone presentations were offered at this conference.

They were:

- The role of material choice in regional socio-political negotiations: geochemical variation between recuay monumental stone sculptures in the Andean highlands
- Geological origin and cultural significance of *sascab* on the Yucatán peninsula in Mexico
- Charnockite: important heritage stone from India
- A study on the soundness of parent rocks in Sri Lanka
- Intrasample variations in stable isotope composition of Carrara marble: implications for provenance studies
- *Nero di Colonnata* (black Carrara marble): petrographic and stable isotope comparisons with famous white Carrara marble and one chinese import
- A review of Pittsburgh's building stones and architecture styles from 1764 to 1938
- A particular fondness for stone: use of marble and other stone by the architectural firm of Walker & Weeks
- The signature dimension stones used by Longfellow, Alden and Harlow, architects - in classical Pittsburgh architecture from 1887-1910
- Investigating midwestern millstones: distribution and characterization of millstones made of local chert in Ohio
- Lithological and paleontological aspects of a late-eighteenth -early-nineteenth century Kentucky millstone quarry containing in situ millstones made of Ordovician chert-rich rock

Two field trips were also sponsored by the Heritage Stone Subcommittee in association with the Cultural Geology and Heritage Stone session. Both focussed on the locally available Indiana Limestone (stratigraphically named the Salem Limestone). They were Monuments, museums and skyscrapers: the building and decorative stones of downtown Indianapolis

Salem limestone (Valmeyeran, Mississippian) – a high-energy carbonate shoal model
Field Guides for both field trips were published in the Field Guide Series of the Geological Society of America

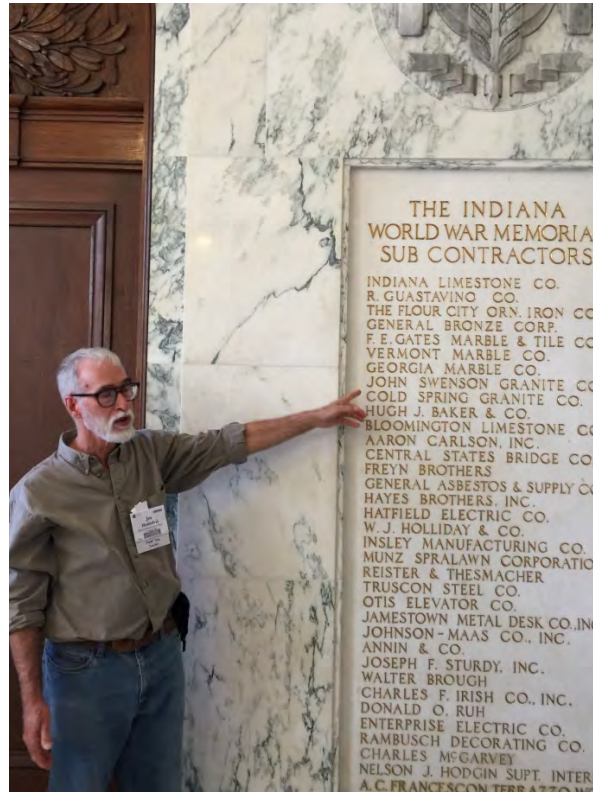


Illustration: Field Trip Leader, Joe Hannibal discusses the marble in the Indiana World War Memorial in Indianapolis

Other activities

European Project: European Innovation Partnership on Raw Materials: Building a harmonized European database on natural stones for the use of construction and restoration stakeholders: NATUREUROSTONES

A group of HSS correspondents applied for an European Commitment to build a pan-European database on natural stones. The proposal was approved in 2015.

More information can be retrieved at:

<https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/content/building-harmonized-european-database-natural-stones-use-construction-and-restoration>

NATUREUROSTONES ended in 2018, with several outcomes, like the involvement of several HSS correspondents in an ERASMUS+, coordinated by the university of Coimbra: SUGERE:

<http://www.uc.pt/en/international/featured/sugere-project>

THE IGCP 637

In 2018 the HSS got an extension of the IGCP, IUGS-UNESCO project, presented by the whole board, but including correspondents as potential recipients of benefits. This project aims to firmly establish the first international standard for building and ornamental stones via extensive documentation of those stones that have been significant in human culture. Suitable nominations will be sought worldwide in an initiative that will aim to record the different characteristics for each stone type. The IGCP funding has served to partially fund the participation of early researchers, female researchers and researchers coming from developing and emerging countries to the sessions organized by the working group in the various locations. The HSS has applied for an extension for 2019 that will help to cover the expenses of eligible researchers to attend next EGU2019. See our web page to find out about eligibility.

4. Activities for the near future

Activities are planned for 2019.

- **EGU 2019:** The General Assembly of “European Geoscience Union” (EGU) to be held in Vienna (7-13 of April 2018) will have the 7th edition of the session on Natural Stones research and Heritage Stone designation:
Session ERE7.2/EOS11.2
Heritage Stones: construction and restoration materials for sustainable development (co-organized)
Conveners: Dolores Pereira | Co-conveners: Gurmeet Kaur, Maria Heloisa Frasca
Submission of abstracts at;
<https://meetingorganizer.copernicus.org/EGU2019/abstractsubmission/30599>
- **EGU 2019:** HSS Splinter Meeting. Wednesday 10th April. See EGU web page for more information.
- **36th IGC**, New Delhi 2020, 2nd circular already available. The HSS is organizing a session at this IGC: Natural Stones and Architectural Heritage. More on this meeting at <http://36igc.org/SecondCircular.pdf>
- **II Workshop on Heritage Stones**, Torino 2020, more on this meeting available soon.
- **STONE2020**, Göttingen, Germany, 7-12 September 2020
Our correspondent Luís de Sousa informs on the meeting STONE2020. This meeting will discuss deterioration and conservation of stone and heritage.
<http://stone2020.uni-goettingen.de/>

All these activities and more will be property advertised in our web page:

<http://www.globalheritagestone.com>

5. Calendar

Please, visit regularly our web page. Information will be updated periodically, with important meetings and interesting activities for the HSS

6. Obituary

Don Byerly, Professor Emeritus of the Earth and Planetary Sciences Department, University of Tennessee, Knoxville, passed away on April 25, 2018. Don was a valued colleague, an honored teacher, and an untiring advocate for the earth sciences. He was the author of *The Last Billion Years: A Geologic History of Tennessee* (2013) and a major contributor to the exhibition *Rock of Ages: East Tennessee's Marble Legacy, Museum of East Tennessee History* (November 2016-May 2017).

Born in Wilmington, Delaware, he received an A.B. degree in Geology from the College of Wooster, Ohio and earned M.S. and Ph.D. degrees at the University of Tennessee, Knoxville. His specialty was Engineering/Environmental Geology. He received many teaching awards and was a Fellow of the Geological Society of America.

He was also author of the paper:

Byerly, D.W., and Knowles, S.W., 2017. Tennessee "Marble": a potential "Global Heritage Stone Resource": *Episodes*, v. 40, p. 325–331



