

**Preliminary program to the international conference on “Natural stone for cultural heritage: local resources with a global impact” to be held in Prague (Premonstratensian Monastery at Strahov), Czech Republic, September 19-22, 2017**

**Monday, September 18**

17:00 – 18:00 registration

18:00 – 19:30 Welcome and ice-breaking meeting

**Tuesday, September 19**

8:00 – 9:30 registration

9:30 – 10:55 Welcome to conference participants and guided tour through the conference place – Royal Canonry of Premonstratensian at Strahov (Mons. Šidlovský)

10:55-11:00 Opening of the scientific part of the conference

**Oral session I: Historical quarries**

11:00-11:40 keynote	<b>Natural stone value assessment: problems and possible solutions</b> Tom Heldal
11:40-12:00	<b>The Boboli Garden, Firenze (Italy): from quarryscape to place of delights</b> Massimo Coli
12:00-12:20	<b>Ancient andesite quarries in Larisa (Buruncuk)</b> Gizem Mater
12:20-12:40	<b><i>Saxa sacra et lapides excavati atque incisi</i>. Stone quarries areas in the Roman areas in the Roman mid-northern Tyrrhenian Sea: forms of sacredness between religious devotion and political power</b> Eliana Piccardi

12:40-13:30 lunch

**Oral session II: Stone in architecture**

13:30-14:10 keynote	<b>European stone in North America (1600—1900) and its legacy</b> Joseph Hannibal
14:10-14:30	<b>Natural stone presence in the built heritage of the town of Udine (NE Italy)</b> Anna Frangipane
14:30-14:50	<b>The heritage buildings of the University of Coimbra (Portugal)</b> <u>Lidia Catarino</u> , Mário Quinta Ferreira, Fernando Pedro Figueiredo, Francisco Campos Gil, Fernando Marques
14:50-15:10	<b>Military fortifications across the cities of Andalusia and Morocco</b> <u>Siham Belhaj</u> , Lahcen Bahi, Ahmed Akhssas

15:10-15:40 coffee break

(Continuation of oral session II)

15:40-16:00	<b>Bayreuth Marbles: polishable limestones and marbles from Northern Bavaria in the Baroque period</b> Gerhard Lehrberger
16:00-16:20	<b>The clash between natural and cultural heritage protection: the case of platy limestone as a characteristic element along the karstic Adriatic coast</b> Matevž Novak, Urša Šolc
16:20-16:40	<b>Oolitic limestones from Lorraine: a modern material for sculptures, monuments and buildings in the late 19<sup>th</sup> c.</b> Gerhard Lehrberger
16:40-17:00	<b>Identification, classification and analysis of stones in temple architecture with special emphasis on Trilokinath temple, Mandi, Himachal Pradesh</b> Prafulla Tarachand Janbade, N M Thakur, B N Tandon

17:00-18:00 late coffee and poster session

### **Wednesday, September 20**

#### **Oral session III: Importance of local natural stone for heritage conservation**

9:00-9:40 keynote	<b>Stone resources for the management of cultural heritage in Scotland: a national perspective on global issues</b> Ewan Hyslop
9:40-10:00	<b>Petrophysical and mechanical properties of Piromafo, a stone variety of the Pietra Leccese Fm. (Apulia, southern Italy)</b> Gioacchino Francesco Andriani
10:00-10:20	<b>Evaluation of utilization coefficient during exploitation of thin plates in the case of Lipovec natural stone from Croatia</b> Ana Maričić, Dražen Pinjuh
10:20-10:40	<b>Considerations on geodiversity and geoconservation applied to historical buildings and cultural heritage</b> Amanda Ricardo, Katia Mansur, Catherine Gallois

10:40-11:00 coffee break

(Continuation of oral session III)

11:00-11:20	<b>Applying geological knowledge and skills to confront challenges in built heritage conservation: experiences of the British Geological Survey's Building Stones Team in Scotland</b> Paul Everett
11:20-11:40	<b>Decision-making process for the replacement of Lede stone, Belgium</b> Jozefien De Laet, Tim De Kock, Frank Gelaude
11:40-12:20 keynote	<b>The application of historical regional building stone in the preservation of monuments in Flanders</b> Johan Grootaers

12:20-13:30 lunch

#### **Oral session IV: Durability assessment**

13:30-13:50	<b>Damage evolution and the efficiency of swelling inhibition treatment on the durability of Villarlod molasse sandstone after multiple wetting and drying cycles</b> Nevin Aly, Timothy Wangler, Robert Flatt
13:50-14:10	<b>Same rock, same quarry basin, diverse durability: how changing petrophysical properties affect trachyte decay</b> Luigi Germinario, Lara Maritan, Claudio Mazzoli, Siegfried Siegesmund
14:10-14:30	<b>How does the structure of three varieties of limestone influence the decay by salt crystallization?</b> Malika Chentout, Belaid Alloul, Djelloul Belhai, Celine Thomachot-Schneider, Alexandra Conreux, Patricia Vázquez
14:30-14:50	<b>Micro-scale freeze-thaw experiments in rocks: non-destructive visualization using X-ray CT</b> Tim De Kock, Maxim Deprez, Geert De Schutter, Veerle Cnudde

14:50-15:20 coffee break

(Continuation of oral session IV)

15:20-15:40	<b>Assessing the effects of accelerated weathering by spray of soluble salt on Brazilian historic stones</b> Alexander Gimenez, <u>Eliane del Lama</u> , Emilio Barroso
15:40-16:00	<b>Durability against salt crystallization cycles of a building greenschist from Iran</b> <u>Ahmad Zalooli</u> , Mashala Khamsehchiyan, Mohammad Reza Nikudel, David Martín Freire-Lista, Rafael Fort González, Shahram Ghasemi
16:00-16:20	<b>Investigation of stone surfaces / patinas from limestone heritage structures and restoration / conservation with nanomaterials</b> Rodica-Mariana Ion

16:20-16:50 coffee break

*Oral session V: Properties of natural stone from local resources*

16:50-17:10	<b>Relationship between porosity and Cooling Rate Index of intact rock specimens</b> Giovanna Pappalardo, <u>Simone Mineo</u>
17:10-17:30	<b>Investigation of the solar reflection index values changes of some carbonate rocks depending on the surface properties</b> <u>Rasit Altindag</u> , Ibrahim Ugur, Nazmi Şengün, Deniz Akbay, Servet Demirdağ, Ahmet Çoşkun, Murat Sert
17:30-17:50	<b>A soft computing approach to study thermal conductivity of rocks</b> Manoj Khandelwal

17:50-19:00 poster session (optional)

**Thursday, September 21*****Oral session VI: Decay of local stone – influence of environmental and other factors***

9:00-9:20	<b>Environmental interactions of natural stone in cultural heritage monuments: examples of decays for hard rocks in different places in Brazil</b> Antônio Costa
9:20-9:40	<b>Limestone chromatic changes: A case study</b> <u>Luis Dias</u> , José Mirão, Tânia Rosado, Pedro Barrulas, Luís Lopes, Ana Teresa Caldeira, António Candeias, Ana Manhita
9:40-10:00	<b>The discolouration phenomenon in Assisi bi-chromatic medieval limestone masonries</b> <u>Eleonora Scopinaro</u> , Ákos Antal, Ákos Török
10:00-10:20	<b>Pollution effects on stones: a multidisciplinary approach</b> <u>Giorgia Vidorni</u> , Alessandro Sardella, Carmela Vaccaro, Paola De Nuntiis, Paola Fermo, Valeria Comite, Alessandra Bonazza
10:20-10:40	<b>Quantitative assessment of the deterioration of stone cultural relics in Yangxin Palace of Imperial Palace Museum</b> <u>Bingjian Zhang</u> , Zang He, Peng Zhao, Qiong Zhang

10:40-11:00 coffee break

***Oral session VII: Diagnosis of decay processes and conservation treatments***

11:00-11:40 keynote	<b>Knowledge and restoration of architectural and archaeological monuments: from historical sources to in situ/remote sensing technologies</b> Nicola Masini
11:40-12:00	<b>Photogrammetry applied to diagnostics of lithic monuments</b> <u>Benedetta Ricci</u> , Alessandro De Gloria, Laura Gaggero, Simona Scrivano
12:00-12:20	<b>Roughness assessment comparison to identify stone decay impact upon historical buildings</b> <u>Brian Johnston</u> , Jennifer McKinley, Patricia Warke

12:20-13:30 lunch

(Continuation of oral session VII)

13:30-13:50	<b>The application of drilling resistance measuring system (DRMS) for the evaluation of consolidation efficacy on sulfate stones: the case of mineral gypsum from the Minoan Palace of Knossos</b> <u>Ioannis Grammatikakis</u> , Konstantinos Demadis, Eirini Armakola, Konstantinos Papathanasiou
13:50-14:10	<b>The walls of Palmanova: stone analysis, diagnosis of degradation, and conservation</b> Alessandra Biasi
14:10-14:30	<b>In situ testing of salt content of sandstone related to the climate changes in cultural heritage objects using portable non-destructive Raman and NIR spectroscopy</b> Judit Zöldöldi
14:30-14:50	<b>Evaluation and rehabilitation of 1920s and 1930s limestone facades</b> Matthew Novesky, Edward Gerns

14:50-15:20 coffee break

*Oral session VIII: Conservation*

15:20-15:40	<b>Study on possibilities of surface conservation of eroded polishable limestones by means of synthetic and natural polymers</b> <u>Karol Bayer</u> , Petra Pařenicov
15:40-16:00	<b>Assessing the effects of past conservation treatments on Portuguese limestones with ethyl silicate and limewater</b> <u>Ins Cardoso</u> , Dria Costa, Jos Miro
16:00-16:20	<b>Graffiti vandalism on ornamental stones: the case study of the city of Turin (Italy)</b> Francesca Gambino, Chiara Ricci, Marco Nervo, Anna Piccirillo, Daniele Castelli, Alessandro Borghi, Arianna Scarcella, Alessandra Destefanis, Francesca Zenuccini, J. Santiago Pozo-Antonio
16:20-16:40	<b>Comparative analysis of 10 different repair mortars</b> <u>kos Trk</u> , Balzs Szemerey-Kiss, Zoltn Hering, Fanni Agrdi

16:40-17:00 coffee break

*Oral session IX: Provenance analyses of natural stone in monuments*

17:00-17:20	<b>Conservation and the analysis of the stone fragments found in the archaeological site of Salona</b> Siniša Bizjak
17:20-17:40	<b>Roman funerary stones of SW Pannonia: geological aspect</b> Branka Migotti
17:40-18:00	<b>Marble resources in the NW of Spain: a scarce and poor-quality stone?</b> Marie-Claire Savin, Anna Gutirrez Garca-M., Pilar Lapuente, Isabelle Pianet, Hernando Royo, Rmy Chapoulie, Silvia Gonzlez Soutelo

18:00 – 18:15 termination of the scientific part of the conference

19:00 conference dinner at the Strahov Monastic Brewery

**Friday, September 22**

8:30 departure to the conference field trip – quarries and monuments in Prague surroundings (tentative return by 16:00)

Poster session

**Stone weathering induced by air pollution: the investigations of the developed black surfaces and the substrates**

Nevin Aly, Valeria Comite, Donatella Barca, Paola Fermoc, Elena Perez-Monserrat, Mauro La Russa, Silvio Ruffolo, Ákos Török, Rafael Fort, Monica Alvarez de Buergo

**Integrated methodologies for assessing the provenance of building materials from the Roman pier of San Cataldo (Adriatic coast, southern Italy)**

Gioacchino Francesco Andriani, Luca Maria Foresi, Stefano Margiotta, Anna Eliana Pastoressa, Mariangela Sammarco

**A methodology for the study of historic quarries associated with architectural heritage. The INCHAPA project: a Spanish example**

José Manuel Baltuille, Enrique Álvarez-Areces, Jorge Fernández-Suárez, Javier Martínez-Martínez

**Stone resources in Kosovo: their use in sculpture during antiquity and their importance for cultural heritage**

Exhlale Dobruna-Salihu

**Mineralogical-petrographic and geochemical analyses of travertines of the Mijas Hills (Malaga, Spain) used for ornamental purposes in the Modern Ages**

José Beltrán Fortes, Esther Ontiveros, María Luisa Loza

**Formation and features of Etankpini karst topography and basement caves, southeastern Nigeria**

Ndukauba Egesi

**A multi-analytical approach for the assessment of black crusts damaging the stone surfaces of historical monuments**

Paola Fermo, Valeria Comite, Lorena Barbagallo, Fabio Carraro, M.F. La Russa, S.A Ruffolo

**Predicting the uniaxial compressive strength and durability of carbonate rocks from rock texture**

Mojtaba Kamani, Rassoul Ajalloeian

**Provenancing criteria for marbles from metamorphic terranes with complex history: pilot study on crystalline carbonate rocks from the Bohemian Massif (Variscan orogene)**

Aneta Kuchařová, Richard Přikryl

**Extraction and processing of natural stone using digital image processing**

Valentyn Korobiichuk, Ruslan Sobolevskyi, Andrei Kryvoruchko, Vladimir Shlapak

**Millstone Quarries of the Shawangunk Ridge, Lower Silurian Metaconglomerate, New York, U.S.A.**

Philip LaPorta

**StonePT: More than a brand, the reliability of excellence in dimension stones from Portugal**

Luís Lopes, Célia Marques, Miguel Goulão

**Sulphate salts from the damaged sandstone blocks of the Romanesque presbytery of the church in Dziekanowice (South Poland): a microanalytical study**

Mariola Marszałek

**Photogrammetry and 3D geological modelling: useful tools for studying historical quarries and their connection with architectural heritage**

Javier Martínez-Martínez, Iván Martín-Rojas, Hugo Corbí, Enrique Álvarez Areces, José Manuel Baltuille Martín, Jorge Fernández Suárez

**7,000 years of building with natural stone in Álava (Basque country, northern Spain)**

Luis M. Martínez-Torres, Miguel Martínez-Fernández

**Ivanovo rock churches and monasteries in NE Bulgaria**

Margarita Matova

**Biodeterioration of limestone by oxalic acid producers in the UNESCO site “University of Coimbra – Alta and Sofia”**

Nuno Mesquita, Ana Catarina Pinheiro, João Trovão, Fabiana Soares, Catarina Coelho, Hugo Paiva de Carvalho, Francisco Gil, Igor Tiago, Antonio Portugal, Lídia Catarino

**Consolidation of Miocene porous limestone; changes in mechanical properties and pore-size distribution**

Zita Pápay, Ákos Török

**17<sup>th</sup> century polychrome stone carving made by sculptor M. Repeneker – research and conservation**

Madara Rasina

**A stone and a palace: characteristics and stone decay of the augen gneiss at the Imperial Palace in Rio de Janeiro**

Amanda Ricardo, Emilio Barroso, Kátia Mansur, Catherine Gallois, Roberto Ribeiro

**Protection of ornamental stones in Urban and Cultural Heritage: comparison of different anti-graffiti coatings**

Chiara Ricci, Francesca Gambino, Marco Nervo, Anna Piccirillo, J. Santiago Pozo-Antonio, Daniele Castelli, Alessandro Borghi

**The Fortress of São JoãoBaptista (Monte Brasil, Terceira Island, Azores, Portugal): Volcanic stone and Italian design in a Spanish administration**

Francisco Cota Rodrigues, Lidia Catarino, Raimundo Mendes da Silva, Francisco Maduro Dias

**The role of petrophysical properties in salt weathering and freeze-thaw durability of Miocene porous limestone**

Nikoletta Rozgonyi-Boissinot, Zita Pápay, Ákos Török

**Polished limestone and marble in Baroque altars and monuments in the Czech Republic**

Alexandra Švecová, Gerhard Lehrberger

**Geoarcheological characterisation of the marble ornaments from the disrupted gothic church of S. Francesco of Castelletto (Genoa, Italy)**

Elisa Volpe, Laura Gaggero, Simona Scrivano

**Breaking load at dowel hole vs flexural strength**

Dimitris Xirouchakis, Stratis Tzivoliás, George Mpatistakis, Miltiadis Exakoustidis, Dimitris Sakis

**The effect of clay content on geomechanical properties of limestone**

Rasool Yazarloo, Farhad Nabizadeh, Sadeh Ebrahimi, Farid Radaee