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# Global Stone

Congress 2025  
Drama, Greece

**16-20**  
**June 2025**

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## Preliminary Program

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## Monday 16 June

|               |                                   |
|---------------|-----------------------------------|
| 15:00 - 17:00 | Registration                      |
| 17:00 - 19:00 | Opening Session - Greetings/Talks |
| 19:00 - 21:00 | Buffet                            |

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## Tuesday 17 June

|               |              |
|---------------|--------------|
| 08:30 - 09:00 | Registration |
|---------------|--------------|

| Session A1. Natural stone exploration and characterisation |   |            |
|--|---|------------|
| 09:00 - 09:30  | <b>Keynote Speech - The role of stone consultant in supporting a sustainable architecture: from quarry evaluation and stone characterization to processing, installation, and maintenance - Paola Blasi</b> | <b>KN1</b> |
| 09:30 - 09:45  | Geological factors influencing the deterioration processes of the limestones used in the Suleymaniye mosque (Istanbul, NW Türkiye)  | 24         |
| 09:45 - 10:45  | A multi-method research of the white marbles of Turkey, including XRD, XRF, SEM EDX, FT-IR and petrographic characteristics   | 29         |
| 10:45 - 11:00  | Weathering susceptibility of limestone building stones: analysis of case studies  | 51         |
| 11:00 - 11:15  | Anorthosite dimension stone from Angola: main trade lithotypes and their zonation in the Cunene anorthosite complex based on physical-mechanical properties   | 32         |
| 11:15 - 11:30  | Performance of carbonated sludge-based composites (marble and limestone): uniaxial compressive and flexural strength under central loading after freeze-thaw cycles and thermal shock                       | 59         |

|               |              |
|---------------|--------------|
| 11:30 - 12:00 | Coffee break |
|---------------|--------------|

| Session A2. Natural stone exploration and characterisation |   |    |
|--|---|----|
| 12:00 - 12:15  | Effects of surface hardness on abrasion resistance and surface roughness of some igneous stones subjected to foot traffic | 6  |
| 12:15 - 12:30  | Investigation of freezing – thawing effect on the compressive strength of Greek marbles                                   | 11 |
| 12:30 - 12:45  | Examining uniaxial compression strength for Greek marbles   | 18 |
| 12:45 - 13:00  | Stress-strain analysis of a marble quarry in the extraction district of the Apuan Alps (Italy)                            | 30 |
| 13:00 - 13:15  | Regional nature of soapstone in eastern Finland   | 33 |
| 13:15 - 13:30  | Natural stones from EU — denomination criteria standard — a review  | 57 |

|               |             |
|---------------|-------------|
| 13:30 - 15:00 | Lunch break |
|---------------|-------------|

|                                  |  |
|----------------------------------|--|
| Visit to marble processing plant |  |
|----------------------------------|--|

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Greek Mining Enterprises Association

Wednesday 18 June

|               |              |
|---------------|--------------|
| 08:30 - 09:00 | Registration |
|---------------|--------------|

| Session B. Automation and digitalisation in the stone industry |   |            |
|--|---|------------|
| 09:00 - 09:30  | <b>Keynote Speech - Smart Quarries: AI and Machine Learning Transforming Marble Exploration, Extraction, and Processing - Ioannis Kapageridis</b> | <b>KN2</b> |
| 09:30 - 09:45  | Digitization of quarrying process and environmental parameters  | 21         |
| 09:45 - 10:45  | Natural stone image classification using online databases and convolutional neural networks   | 60         |
| 10:45 - 11:00  | Design of rockfall barriers to mitigate rockfall risk in a marble quarry of the Apuan Alps extraction district (Italy)                            | 31         |
| 11:00 - 11:15  | Occupational health and safety simulation for natural stone quarries using virtual reality  | 16         |
| 11:15 - 11:30  | Stone chainsaw cutting technologies and parameters – review   | 62         |

|               |              |
|---------------|--------------|
| 11:30 - 12:00 | Coffee break |
|---------------|--------------|

| Session C. Circular economy and sustainability |  |    |
|--|--|----|
| 12:00 - 12:15                                  | From cradle to gate: sustainability of Sardinian granite   | 23 |
| 12:15 - 12:30                                  | From wastes to resources: the processing of extractive waste from siliceous stones for critical raw materials and by-products exploitation | 48 |
| 12:30 - 12:45                                  | Managing marble quarry waste: opportunities and challenges for circular economy implementation   | 47 |
| 12:45 - 13:00                                  | Ecogeodidactic resource – a circular path for natural stone wastes - didactic interest, economic potential and safety assessment proposal  | 58 |
| 13:00 - 13:15                                  | Recycling granite factory wastes   | 38 |

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|---------------|---|----|
| 13:15 - 13:30 | Stone composites made with waste from the carbonate ornamental stone extraction and processing industry | 63 |
|---------------|---|----|

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|---------------|-------------|--|
| 13:30 - 15:00 | Lunch break |  |
|---------------|-------------|--|

| Session D. Environmental and Social Governance (ESG) - Education |  |            |
|--|--|------------|
| 15:00 - 15:30  | <b>Keynote Speech - Can marble exploitation be both a backbone to local prosperity and an environmental pioneer? The answer is definitely yes - Maria Menegaki</b> | <b>KN3</b> |
| 15:30 - 15:45  | Sustainable management of environmental and social impacts in marble quarrying: insights from the new GRI mining sector standards                                  | 41         |
| 15:45 - 16:00  | Ecological education and for environmental protection. Case study  | 7          |
| 16:00 - 16:15  | The importance of education in georesource management for a more sustainable mining: the GEODES Erasmus project  | 46         |
| 16:15 - 16:30  | Sustainability and modernisation in the western Balkans' natural stone industry: a focus on education  | 26         |
| 16:30 - 16:45  | The potential impact of the EU's new emission trading system on the profitability of marble quarries   | 22         |

|               |              |  |
|---------------|--------------|--|
| 16:45 - 17:15 | Coffee break |  |
|---------------|--------------|--|

| Poster Session |   |    |
|----------------|---|----|
| 17:15 - 18:30  | Broot, an innovative project where Portuguese stone is the primary fertile material                                     | 5  |
|                | Limestone heritage and geosites of the Apuseni natural park (Romania). Developing geosite inventory and classification  | 9  |
|                | Laboratory testing properties of Samian limestone exploited in antiquity  | 10 |
|                | Microbial bioweathering of shale tailings: potential for agricultural fertilization and sustainability in the semi-arid | 12 |
|                | Effect of heat treatment on the release of K and P from shales of the Borborema pegmatitic province, Brazil             | 13 |

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|--|--|----|
|  | Mineralogical and geochemical characterization of rocks of the Borborema pegmatitic province (Brazil) for agronomic purposes   | 14 |
|  | Investigation of different patterned varieties of Turkey's natural stone potential   | 15 |
|  | Geologic mapping of Lioz limestone in the Pero Pinheiro region, Portugal   | 20 |
|  | A biotechnological approach to cultural heritage conservation: investigation of consolidation of Kufeki limestone by microbial method  | 28 |
|  | Ultrasound velocity measurements as an alternate way for estimating the physicommechanical properties of carbonate ornamental rocks  | 35 |
|  | Towards sustainable cladding: multianalytical prediction of marble bowing and degradation  | 37 |
|  | Ornamental stones waste as a potential soil remineralizer  | 39 |
|  | Bridging the gap between engineering degrees and the natural stones industry: a new master's program in marble exploitation  | 40 |
|  | he physic mechanical properties of the structural stones of the Parthenon at the Acropolis of Athens and integrity control of the grouted restoration Joints by conducting ultrasonic analysis | 42 |
|  | Investigation into saturation and drying times for natural stones' water absorption determination  | 44 |
|  | Ornamental stones waste as a potential soil remineralizer  | 49 |
|  | Analysis of stain resistance of agglomerated stones produced with ornamental stone wastes  | 50 |
|  | Use of pegmatite waste in the production of red ceramics   | 52 |
|  | Geological mapping of St Mary's church, Bergen, Norway: searching for a geological building stratigraphy   | 54 |
|  | Generation of public toys from HDPE and marble Bege Bahia waste for people with special needs  | 56 |

Hosted Dinner

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Thursday 19 June

|               |              |
|---------------|--------------|
| 08:30 - 09:00 | Registration |
|---------------|--------------|

| Session . Natural stones in architecture and arts |   |            |
|---|---|------------|
| 09:00 - 09:30                                     | <b>Keynote Speech - Earth, memory, myth; stone in contemporary architecture - Costandis Kizis</b>         | <b>KN4</b> |
| 09:30 - 09:45                                     | Natural stone facades—challenges and innovations in decay, maintenance, and durability                    | 36         |
| 09:45 - 10:45                                     | Use of sedimentary limestone for the construction of ancient structures and monuments in Sri Lanka        | 8          |
| 10:45 - 11:00                                     | Stone architecture: unveiling the legacy of cultures and traditions                                       | 53         |
| 11:00 - 11:15                                     | Natural stones in construction: global issues and practical strategies                                    | 43         |
| 11:15 - 11:30                                     | Exploring stone craft in contemporary interior design in Algeria : innovative applications and techniques | 4          |

|               |              |
|---------------|--------------|
| 12:00 - 12:15 | Coffee break |
|---------------|--------------|

| Session F1. Geoheritage and geoconservation |  |            |
|---|--|------------|
| 12:00 - 12:15                               | <b>Keynote Speech - Management Studies of the Hellenic Survey of Geology &amp; Mineral Exploration (H.S.G.M.E.) in the Main Areas of Ornamental Stones, in Northern Greece - Ioannis Chatzipanagis</b> | <b>KN5</b> |
| 12:15 - 12:30                               | Use of inorganic chemistry in the design of conservative and sustainable solutions in geoconservation projects where natural stone is used   | 19         |
| 12:30 - 12:45                               | The geoheritage of basalts from the Javakheti volcanic highlands, South Georgia  | 55         |
| 12:45 - 13:00                               | The building stone collection of the BGR and the IUGS heritage stone collection in Berlin  | 34         |
| 13:00 - 13:15                               | Twin-heritage project. 3D scanning for a comprehensive evaluation in the basilica of Saint Nicholas  |            |
| 13:15 - 13:30                               | Development and implementation of the Angeles system: enhancing workplace safety through IoT and UWB technology  |            |

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|---------------|-------------|
| 13:30 - 15:00 | Lunch break |
|---------------|-------------|

| Session F2. Geoheritage and geoconservation |   |    |
|---|---|----|
| 15:00 - 15:30                               | How much Lioz is available for extraction?  | 17 |
| 15:30 - 15:45                               | Stone in our built heritage from a Swedish perspective  | 66 |
| 15:45 - 16:00                               | Onyx from Ain Smara (north- eastern Algeria): a natural stone to be considered as a global heritage stone | 25 |
| 16:00 - 16:15                               | Heritage stones of the Bologna region: geological insights and historical applications                    | 27 |
| 16:15 - 16:30                               | Valorisation of aggregate-washing arids and stone sludges in innovative applications in construction      |    |
| 16:30 - 16:45                               |   |    |

|               |              |
|---------------|--------------|
| 16:45 - 17:15 | Coffee break |
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|               |                 |
|---------------|-----------------|
| 16:45 - 17:30 | Closing Session |
|---------------|-----------------|

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Friday 20 June

Site Visits

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