

## **Rock mechanics and physics of natural stone decay**

Workshop leaders:

Prof. Richard Přikryl, Ph.D. (Charles University, Prague, Czech Republic)

Prof. Ákos Török, Ph.D., DSc. (Budapest University of Technology and Economics, Budapest, Hungary)

Workshop rationale:

Rock mechanics of building stones is a new emerging research area that has a crucial importance in the preservation of heritage buildings or in the construction of new stone structures. It is linked to the fact that natural stone is the most widespread type of constructional geomaterial used in buildings, infrastructure, and numerous built cultural heritage objects and works of art. Rocks used as natural stone cover wide range of materials differing in genesis, composition and properties. All rocks are subject of natural weathering processes and, when used in construction, also of various types of decay processes including anthropogenic action (including restoration/conservation), interaction with other constructional materials (e.g. mortars), decay from polluted urban atmosphere, etc. These processes result in uneven alteration of specific part of stone material, leading to the development of various “layers” (from the surficial exposed part to the interior), which each can provide properties quite different from the original material. The aim of proposed workshop is to summarise our current knowledge on the rock mechanical (and physical) testing of natural stone as: (1) a bulk material (i.e. classical approach), and (2) as a material with physically and mechanically differing surficial layers. Workshop leaders will give the introductory talks to provide overview of concepts, testing approaches (both laboratory “destructive” and in situ “non-destructive”) and some case studies. The second part of the workshop will provide space to participants to present their own laboratory or case studies in the mixed format (poster with 5-minute talk). The concluding part of the workshop will be kind of “panel” discussion on current knowledge and expected near-future developments.

Participants:

Professionals working in the field of natural stone studies, rock mechanical and physical testing. PhD students, postdocs and young researchers are specifically welcome to take active part.