



3. INTRODUCTION TO STRUCTURAL CONSERVATION

Dates: 1-5 October 2017

Place: ICCROM-ATHAR Regional Conservation Centre in Sharjah, UAE

Course Partners:

- ICCROM, through its ICCROM-ATHAR Regional Conservation Centre in Sharjah, UAE
- Government of Sharjah, United Arab Emirates

Background and Aims

Structural problems are considered to be one of the most important challenges faced when working in the preservation of historic buildings. The stabilisation of these buildings is the very first step, before any further interventions are implemented. In parallel with the development of the structural design and the analysis of modern building techniques, the knowledge to understand and analyse the stability of historic buildings has also evolved. To this end, ICCROM-ATHAR has decided to develop a module that introduces key methodologies for structural conservation of historic buildings, a module tailored for structural engineers and architects working in the preservation of historic buildings who wish to develop their knowledge and skills in the analysis of structural conservation, as well as for site managers who want to understand the nature of the structural problems of their sites in order to appropriately evaluate structural interventions.

Module Objectives and Expected Results

The module consists of interactive, participatory sessions, both theoretical and practical. Study visits and applied work on sites will complement the work carried out in the classroom. This module aims at introducing the following topics:

- **History of building techniques and structural behaviour of historic buildings:** Main characteristics and construction materials used in the course of History are analyzed. Structural behaviour of historic buildings is studied through a series of commented examples. The particular behaviour of masonry structures is especially analyzed.
- **Preliminary analysis:** This section of the module will look at how to read the stability of historic buildings, assessing construction defects and damage. Participants will also explore how to write a preliminary structural assessment report.
- **Investigations and structural analysis:** Participants will examine the materials used in the construction of a building (studying samples, performing soundings, etc.) and will use modern techniques for testing the structures. After that, participants will discuss existing conditions and look into structural modelling using appropriate techniques in order to understand the behaviour and distribution of stresses in the structure.
- **Temporary shoring and monitoring:** Participants will explore the designs for the temporary consolidation of structures using appropriate materials, including how to secure a building, the security of workers, and the installation of monitoring equipment.
- **Structural conservation project design and modelling:** Participants will be introduced to: the development of structural conservation projects aiming to save a building in the long term, using appropriate materials, principles of consolidation, methods of execution and material properties; the use of appropriate programs in order to understand the behaviour and the distribution of stresses in the building after the proposed intervention.

Module Fees: 600 US Dollars

Application Deadline: 10 August 2017- any applications received after this date will not be considered.

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