SUMMER PROGRAM N. 2 - STRUCTURAL STRENGTHENING AND REHABILITATION OF HISTORICAL BUILDINGS

Organized by: H2CU, University of Bologna, IUAV Venezia (Proff. M. Savoia, A. Saetta)

Location: Fordham University, New York, or Metrotech at New York University, or other location in New York

Period: 8-19 July 2019

Course contents and activities:

Historical masonries - quality , testing, strength - Damage scenarios after L'Aquila earthquake. Definition of the state of damage and identification of the causes - Damage scenarios after Emilia earthquake. How to acquire knowledge of the building - Examples - seismic safety assessment of Historic buildings LV1 methods for seismic safety assessment (Resisto method) - examples of application and local collapse mechanisms - Homework

General criteria for intervention on masonry structures - use of steel ties - techniques for repairing cracks - techniques for improvement of wall strength reinforced injections – hoops – reticolatus Rehabilitation of timber structures - techniques for integration with other metal or wooden structures - techniques prosthesis beam elements Confinement of masonry columns - improvements of connections between masonry walls and floor structures.

Use of composite materials for strengthening: materials (FRP, FRCM), techniques, criteria and applications, safety verifications - other advanced technologies - consolidation of special masonry structures, vaults and domes, towers (prestressed cables)

Use of wooden floor diaphragms for seismic strengthening in masonry structures - consolidation of the foundations, rehabilitation with micro piles, soil consolidation - use of consolidating injections.

Number of hours: 48 hours

Min and max number of italian students accepted: 10-20

Fee: 2000 euro – if the student wants benefit of the accommodation the fee is 3000 euro. Scholarships might be provided.

APPLICATION REQUIREMENTS:

Applicants must be enrolled in the Master degree of Civil Engineering (LM23) and must have an English certificate.

APPLICATION SUBMISSION:

Applicants must send by email the following documents:

- Application form (Attachment 2, pag.9 of the Call) filled in and signed;
- A copy of the passport or the ID card;
- The transcript of records of the Civil Engineering master degree (the document must report the list of the exam passed, the grades and the CFU);
- The bachelor degree certificate with final grade;
- An English language certificate

- The Curriculum Vitae.

All these documents must be sent by email to: **salvatore.grimaldi@unitus.it** and **federica.rosso@uniroma1.it**, **by June the 9th, 2019**.