



when
AUG 30 - SEPT 10



language
English



venue
Anagni - Italy



duration
12 days



credits
90 credit hours



fee
EUR 950



registration deadline
**Applications for
scholarships and
regular applications
close on the
18th of July 2021**

INTERNATIONAL SUMMER SCHOOL HISTORIC MASONRY STRUCTURES

Summer 2021
AUGUST 30th - SEPTEMBER 10th

*Convitto Principe di Piemonte, Anagni (Italy)
with the patronage of Regione Lazio and the City Council of Anagni*

6 scholarships available (600 euros each)

ORGANIZING UNIVERSITIES Italy | Spain **SUPPORTING INSTITUTIONS** Regione Lazio | DTC Lazio | KEIKO Association | Città di Anagni



Città di Anagni

PROGRAMME

Masonry structures represent the vast majority of World's architectural heritage. Traditional building rules have been almost forgotten, but understanding construction techniques and structural behaviour of historical constructions is a key ingredient for their preservation, restoration and, at the same time, for design purposes. This International Summer School aims at providing fundamental theoretical and applied tools to analyse Historic Masonry Structures combining engineering, architecture, restoration and history of construction.

The Summer School on Historic Masonry Structures is designed to bring together researchers and scholars from the different fields of structural masonry, construction history and restoration to share their experiences on the history, design rules, construction methods and assessment tools of historic masonry structures, including vaults, domes and shells. Teaching will be in English, and it will include three main parts: course work, field-work and technical trips.

The learning programme is based on a variety of didactic approaches including lectures, research presentations by students, field-work and field trips. Being scheduled to occupy twelve days, course work will play the main role during the summer school.

At the end of the programme the results of the field-work campaign will be presented by the students.

COURSE WORK

Course days will be focused on a general theme and are planned to be formed by morning and afternoon sessions.

Several days will end with a keynote lecture dealing with specific problems from the practical or theoretical work of one of the teachers or PhD students.

The morning sessions are devoted to introductory lectures delivered by experts in ancient masonry structures and will therefore take the form of 'master classes'. Each lecture will last for about an hour, allowing enough time for discussion.

The afternoon sessions will be dedicated to workshops, some of which will be exploratory and allow the students to question and develop their understanding. Others will have seminar character, with groups of students giving presentations about selected case studies in the range of the day's main theme.

FIELD WORK

During the field-work days, students will be asked to analyse some historic masonry constructions in the city of Anagni.

First, students will document their actual state using traditional drawing techniques as well as a variety of instruments. The information collected will be then used to analyse their structural behaviour and

assess their safety, detect possible defects and propose suitable repairs. This work will be supplemented by documentary sources to underpin the students understanding of the structural behaviour of vaults.

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POLITÉCNICA



Città di Anagni

SOME OF OUR LECTURES

Basic Theory

- The material 'masonry'. Heyman's principles of Limit Analysis.
- Equilibrium of masonry. Lines of thrust. Arches. Cracking.
- Limit analysis, safety. Buttresses.
- Domes. Equilibrium, cracks and movements.
- Basic tools of analysis. Graphic Statics. Physical Models.
- The Gothic Structure. Analysis of complete buildings.
- Towers & Spires. Rose windows. Flat vaults.

Advanced Problems

- The Piecewise Rigid Displacement Method.
- Computational discrete limit analysis (for unreinforced masonry).
- Thrust Network Analysis and Rigid Block. Equilibrium: Theory and basic applications.
- DEM modelling and PR: Theory and basic applications.
- Seismic response of masonry structures.
- Spiral stairs with the membrane and the kinematic approach.

■ **Guest Lectures** by leading experts in the field of structural analysis and engineering practice of historical constructions

EXCURSION DAYS

Cathedral, crypt, underground and medieval constructions

Anagni



Villa Adriana

Tivoli



COURSE CREDITS

A certificate of attendance will be provided at the end of the activities, equivalent to **90 credits**.

SCHOLARSHIPS

Thanks to the financial support of Regione Lazio (DTC - Centro di Eccellenza), **6 scholarships** will be awarded to students not supported by their institutions, on the basis of their **CV** and **motivation statement**.

Find out more ...



www.himass.org



historicmasonrystructures@gmail.com

PARTICIPATION FEE & DEADLINES

The fee for attending the Summer School on Historic Masonry Structures is 950 euros and it is an all-in package, consisting of the following items:

- Course participation, materials and tools
- Accommodation in B&B in the city of Anagni
- Lunches and coffee breaks
- Welcome cocktail and farewell dinner
- Transportation at arrival/departure from/to the Anagni Train Station
- Transportation during field trips
- Association fee (25€) to KEIKO Non-Profit Association



Personal expenses like travel costs (plane tickets, train tickets, etc.), travel insurance, dinners and other expenses are not included.

The number of participants is limited to **15 students**. The regular fee is intended for PhD / Graduate students and Post-Docs. Academics over 40 years-old should pay an institutional fee of 1900.00 euros.

Applications close on the 18th of July 2021

ADMISSION & LANGUAGE REQUIREMENTS

This summer school is intended for Graduate/PhD students as well as for practitioners willing to be or already involved in building conservation and restoration, architecture, management of cultural heritage.

Course and keynotes will be taught **in English**.

Applicants do not need to provide any language certificate but their communication skills in English are expected to be at a good level, in order to interact with other students and to actively take part to the course activities.

HOW TO REGISTER?

To apply for the Summer School, visit our website www.himass.org and download the **Application Form**.

Fill it and send it to historicmasonrystructures@gmail.com, in PDF format, together with a short CV. Applications close on the **18th of July 2021**.

In case you are applying for a scholarship, tick the box in the application form!

After your application

You will receive a confirmation email within the next 24/48 hours. The scientific committee will evaluate all the applications and announce the scholarships winners and the students admitted to the course on the **23rd of July 2021**.

Admitted students will receive an acceptance letter and all the instructions to confirm their participation to the course.

If you are admitted to the course

You will receive an email which confirms that you have been admitted to the course and if you have been awarded one of the 6 scholarships available.

You will also receive all the information to proceed with the payment, that must be completed within **15 days** after the acceptance letter.

Find out more ...

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