

**INTERNATIONAL AGREEMENT FOR A JOINT RESEARCH PROGRAMME
BETWEEN**

**Vellore Institute of Technology, Vellore, India, at the address: Katpadi
Road, Vellore - 632014**

and

**Interdepartmental Centre of Heritage Science of the University of Pisa
(CISBEC) registered at the address: Pisa, Lungarno Pacinotti, 43/44 (legal
address), via Moruzzi, n 13 Pisa (PI)-operating branch**

The above parties herein state the necessary guidelines for an international agreement to collaborate in a joint research program on application of science and technology in cultural heritage research, including building and archaeological materials.

The principle investigators are Prof. Maria Perla Colombini, Department of Chemistry and Industrial Chemistry (DCCI) of the University of Pisa, and Prof. Thirumalini Selvaraj, Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology, Vellore, India.

Art. 1.

The scope of the agreement is to utilize the resources and scientific expertise of the CISBEC of the University of Pisa and the Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology in pursuing the continued in-depth research in science and materials for cultural heritage characterization and conservation.

Art. 2.

The CISBEC of the University of Pisa will coordinate with the Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India), and vice-versa, researches of common interest to this program.

These institutions will collaborate and assign in reciprocal fashion for the disposition of this program personnel and equipment necessary to carry out experiments.

Art. 3.

The CISBEC of the University of Pisa may, from time to time, request the scientific expertise and technical knowledge of Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) and it may in its time request the same expertise from the personnel of the CISBEC of University of Pisa.

Art. 4

The CISBEC of the University of Pisa may coordinate grants with Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) to support scientists and/or undergraduate and graduate students who will participate in the research projects described above. Study grants would be for one-year duration with the possible renewal of one year, and would be based primarily in Pisa. Scientists will be hosted for periods, which are convenient to their professional schedule. The recipients of research grants will be selected and confirmed by Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) and the CISBEC of the University of Pisa.

The CISBEC of the University of Pisa for its part may institute a study grant for students enrolled in graduate courses in Italy who carry out research at Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India). The study grant will be finalized and agreed to by Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) and the CISBEC of the University of Pisa, in research activities relative to the dissertation topic of each graduate student.

Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) and the CISBEC of the University of Pisa will agree on the research activities supported by the grant on a case-by-case basis. Each research and student grant follows the rules of Pisa University and those of Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) depending where the grant has been activated. When guesting a student or/and a scientist, the insurance is covered by the sending institution.

Art. 5.

The CISBEC of the University of Pisa declares that the institute will give full credit to Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) at relevant conferences and scientific meetings where research results are presented.

Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) in turn will give full credit to the CISBEC of the University of Pisa at relevant conferences and publications.

Art. 6.

The objectives of the previously mentioned activities of this agreement are to promote the mutual interest of Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) and the CISBEC of the University of Pisa regarding the theory and experiments, which are below stated.

We identify the common interests to study the works of interest to Cultural Heritage researches.

In particular, the studies are focussed on:

- Characterization of geo-materials (ceramics, stones, glass, mortars, plasters, etc.) from excavated archaeological sites in supporting historical reconstruction of the past by providing information on provenance and manufacture technologies
- Characterization of organics in ceramic residues from excavated archaeological sites and other organics-based archaeological materials (wood, bones, etc.)
- Characterisation of organics in lime plasters to improve knowledge in ancient receipts
- Explore challenges and manage strategies for the maintenance of building materials in respect to climate changes
- Derive inputs from ancient construction methods and technologies to design new compatible materials for the improvement of the life service of the modern built environment
- Explore potential of innovative materials for the conservation and restoration of ancient masonry

Art. 7.

At the end of the present agreement, the two institutions will evaluate the above findings.

Each institution will support visa applications for students to travel to the other site.

Students' and scholars' living expenses, laboratory and administrative expenses will be supported by grants raised for this program during the term of the agreement. Laboratory space at Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) will be provided in the Heritage Laboratories and other Laboratories of Civil Engineering.

The CISBEC of the University of Pisa will provide working space for scholars and students in the SCIBEC laboratory at the Department of Chemistry and Industrial Chemistry (DCCI) of the University of Pisa and in the laboratories of the Department of Earth Sciences (DST) of the University of Pisa.

Art. 8.

The institutes agree to report individual findings that result from the agreed collaboration, and agree to jointly pursue grants, internal support and external contributions.

Art. 9.

The present agreement will be renewed for 3 years from the date of the signing and may be renewed again for an additional period given the agreement of both institutions by the below signed directors of their designated representatives or successors.

This Contract is made in two original copies having equal legal force, one copy for each of the Parties.

Art. 10.

Any modification to the present agreement will be decided, written and signed by the Directors of the two Institutions.

Art. 11.

The information collected by the CISBEC of the University of Pisa, will be placed at the disposition of Department of Structural and Geotechnical Engineering, School of Civil Engineering, Vellore Institute of Technology at Vellore (India) and vice-versa.

Art. 12.

In all other respects, which are not stipulated by the terms of this Contract, the parties are guided by the current legislation of the Republic of Italy.

The parties agree to mediate in a friendly fashion and disagreements, which may arise in the interpretations of the present agreement. In the case that a disagreement cannot be easily resolved the parties are guided by the current legislation of the Republic of Italy.

Art 13

In case of occurrence of a tax obligation in connection with the performance of this contract by a party of the contract in the territory of its state, such an obligation is to be executed by each party independently.

Prof. Maria Perla Colombini

Director of the Interdepartmental Centre of Heritage Science (CISBEC)
Pisa University

Pisa, 12th February 2020

Dr. K. Sathiyarayanan

Registrar
Vellore Institute of Technology, Vellore, India

India, 12th February 2020

