

## Coating materials and techniques from earthen vernacular heritage of the hispanic culture: cases studies from Spain, Chile and Sardinia

### Summary

All over the world, earth construction techniques have existed since ancient times and have remained until today. However, with the introduction of new materials and the gradual disappearance of the vernacular knowledge on earthen structures, their conservation has been put at risk. The traditional coatings are often replaced with modern ones, regardless their compatibility with earthen structures. Currently there are several contributions to the study of traditional coating materials in which the benefits of natural and traditional renders and plasters with their structures and finishings are identified, as well as technical benefits for comfort and health. There is, however, a need to acquire a better understanding of the connection between the particularities of each material and the processes inherent to its application.

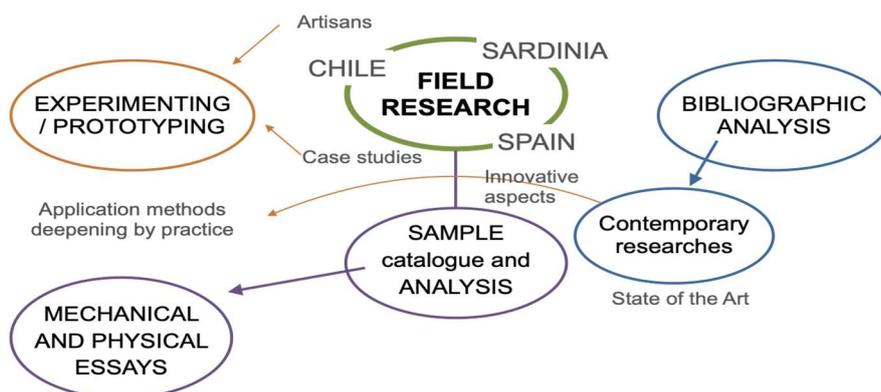
The objective of this research proposal is to identify, characterise and compare the coating systems (renders and plasters with earthen based mortar layers) used on wall surfaces of earthen heritage structures of Chile, Spain and Sardinia. Along the large territory of Chile, based on previous researches developed by the PhD candidate, innumerable examples of earthen heritage structures and their traditional coatings can still be found, on which a very homogeneous coating system is observed, suggesting a rooted, systematised and disseminated culture. Considering the visible influence of the Spanish colonialism in the Chilean constructive culture, it is probable that a similar culture can also be found in other territories influenced by the Spanish culture such as in Sardinia. Approaching these multi context, the research is an opportunity of reaching deeper technical aspects of earthen coatings methods of applications and their interaction between materials: searching for an established culture that, placed elsewhere, had to confront with different contexts and resources. Therefore, it is proposed to investigate the traditional culture prevailing in Chile and in Sardinia, and its Hispanic origins, from the historical, cultural and technical perspective, through: bibliographical analysis; field research with study cases and stratigraphical surveys of samples; laboratory analysis work and finally, prototyping, which is an opportunity for experimentation, testing, formulating or proving hypothesis, as well as showing technical benefits.

### Keywords

Earthen renders and plasters, vernacular architecture, coating application methods.



Samples of different Chilean case studies.



PhD project – working plan.



### PhD student

Patrícia Alexandre Pereira Marques Marchante

### PhD program

Conservation and Restoration of Cultural Heritage (NOVA FCT, NOVA University Lisbon)

### Supervisor

Maddalena Achenza (University of Cagliari)

### Co-supervisor

Paulina Faria (FCT, Nova University of Lisbon; CERIS, IST, University of Lisbon)

### Period

2022-2026

### Funding

-