

# Autum Workshop Earth Building Material Training Iranian young professionals

October – November 2024  
Grenoble, France



## Introduction:

Earth construction is an integral part of most Iranian cities, and master masons have made intelligent use of several earth construction techniques in order to make the most of local resources.

Unfortunately, these techniques and the use of earth as a building material are not part of the academic curriculum for either architects or civil engineers.

But today, a major part of the heritage of historic towns remains often abandoned and in poor condition.

For this reason, these short stays can offer a better knowledge of the material and the different techniques of earth construction in an academic way and at the same time give the opportunity to manipulate this material by building prototypes.

## Brief description

Course title: EARTH BUILDING MATERIAL

### Objectives:

- Provide an overview of earth building cultures
- Learn how to observe earth in order to determine its main characteristics, and become familiar with the most common laboratory tests used to determine the preferred technique for a given soil
- Understand the principles of earth construction and design

## Training programme

### Week 1

### Earth – Building material

<b>Participants:</b>	15 students from Iranian universities
<b>Language:</b>	English
<b>Location:</b>	Grenoble, France
<b>Dates:</b>	14 - 25 October 2024
<b>Programme:</b>	2 sessions/day (9.00-12.00 am / 1.30-5.30 pm)
<b>Responsible:</b>	Bakonirina Rakotomamonjy
<b>Trainers:</b>	Majid Hajmirbaba, Bakonirina Rakotomamonjy, Sébastien Moriset, Mauricio Cordoba

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#### Monday October 14

#### Introduction

Presentation of the participants  
Presentation of the training programme  
Cultural heritage and modern earthen architecture, field visits

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#### Tuesday October 15

#### Laboratory analysis and field tests

Understand earth  
Sensory tests, bottle test, pastille, cigar, hand washing  
Participants manipulate different types of earth

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#### Wednesday October 16

#### Production

Production of earth building materials:  
Adobes, cob, CEB, rammed earth, mortars and plasters

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#### Thursday October 17

#### Production

Production of earth building materials:  
Adobes, cob, CEB, rammed earth, mortars and plasters

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#### Friday October 18

#### Production

Production of earth building materials:  
Adobes, cob, CEB, rammed earth, mortars and plasters

## Training programme (continuation)

### Week 2 Experimentations

<b>Participants:</b>	15 students from Iranian universities
<b>Language:</b>	English
<b>Location:</b>	Grenoble, France
<b>Dates:</b>	14 - 25 October 2024
<b>Programme:</b>	2 sessions/day (9.00-12.00 am / 1.30-5.30 pm)
<b>Responsible:</b>	Bakonirina Rakotomamonjy
<b>Trainers:</b>	Majid Hajmirbaba, Bakonirina Rakotomamonjy, Sébastien Moriset, Mauricio Cordoba

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<b>Monday October 21</b>	<b>Building workshop</b> The principles of earthen masonry Construction of prototypes with adobes, cob, CEB and rammed earth
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<b>Tuesday October 22</b>	<b>Building workshop</b> Construction of prototypes with adobes, cob, CEB and rammed earth
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<b>Wednesday October 23</b>	<b>Building workshop</b> Construction of prototypes with adobes, cob, CEB and rammed earth
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<b>Thursday October 24</b>	<b>Building workshop and earthen plaster tests</b> Construction of prototypes with adobes, cob, CEB and rammed earth
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<b>Friday October 25</b>	<b>Conclusions</b> Exercise 1: prepare a production unit Exercise 2: conception of an earthen building
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