

BASE**habitat** International Summer School

on earthen and bamboo construction

Workshops

Adobe + Earth Blocks

Franco Noriega and Zoé Tric (amàco)

Rammed Earth

Dominik Abbrederis and Max Weidacher

Earth + Fibres

Becky Little and François Streiff

Bamboo

Luisa and Verónica Correa, Daniel Stamatis (bambuterra)



Adobe+Earth Blocks

amàco Gian Franco Noriega, Zoé Tric

amàco, atelier matières à construire, is a center of research, training and experimentation of matter. The project aims to upgrade and disseminate knowledge revealing in a sensitive way the inner qualities of natural materials, such as sand, clay, water and fibers, related to building arts. Approaching matter through science and more subjective concepts, such as materiality and aesthetics, amàco seeks to take part of an environmental paradigm shift, stimulating creativity through the re-connection of emotion and intellect in construction practices.

The project brings together insights of different disciplines to integrate different perceptions and to foster and inspire new contemporary practices. Exploring preconceptions of the idea of progress and innovation, *amàco* is inspired by the experience of nature and its genius of simplicity. Artists, architects, engineers, scientists, philosophers, researchers and others, participate in an interdisciplinary and experimental project that revolves around four interacting areas: science, art, technique and architecture.

amàco is based in France and is supported by four institutional partners:

- :: Grands Ateliers, educational center for research and experimentation in construction
- :: ENSA Grenoble, school of architecture
- :: INSA Lyon, school of engineers
- :: ESPCI ParisTech, school of physicians and chemists

Initially born as a pedagogical project, amàco has evolved from higher education to training and global accompaniment of active or future construction professionals.



Pavillon Fibres et Adobes Prototype building, France 2014

Abris à vélos | Bicycles shelter building prototype France 2015

Workshop Jeux d'adobes mud bricks prototypes International 2013 – today

Architecture Biennale Lyon ephemeral installation France 2017

Scénographie de l'exposition « Pour l'intelligence de la main® » Venise, Italy, 2018

Muséum d'Orléans pour la biodiversité et l'environnement Exhibition pedestals Orléans, France, 2021

Curve Rammed earth furnishings Saint Denis, France, 2021

BAP!2022 Model in molded clay Versailles, France, 2022











Main objective of the workshop is to explore and test the building potential of earth bricks in contemporary architecture and design. Through theoretical inputs and practical experimentation with this ancient building technique, participants will go through a creative process of learning by doing.

Participants will design and build with a particular brick imagined to innovate and responds to an architectural need. They will experience and acquire masonry skills through the construction of a small-scale building prototype.

These are some of the topics that will be emphasized:

- :: Overview of *mud bricks* building culture: inspirations from vernacular to contemporary architecture.
- :: Evolution of production practices and building methods with earthen bricks.
- :: Understanding earth material physical qualities and building properties.



amàco teaching method is based on experimentation and hands-on approach. As a pedagogical project we emphasize aesthetics and emotion as creative vectors to instill curiosity in participants for natural materials architectural potentials. We believe that these methods foster openmindedness and pleasure of learning. We give a priority to teamwork to encourage knowledge exchange and interdisciplinary to develop a collective intelligence.

Moreover, *amàco* principal motivation is to build and disseminate in a big scale a scientific and an eco-friendly technical building culture. In that matter, we are specialized in developing building techniques using local materials like earth and natural fibers. Every workshop we take part is an opportunity to put into practice our teaching methods, to experiment and to exchange with other participants around the question that animates us: How to think and build our environment?







Rammed Earth Dominik Abbrederis, Max Weidacher

Dominik Abbrederis was born in Austria. After a three-year apprenticeship in a sports shop he travelled and worked as skiing and surfing instructor. He attended an outdoor guide training in Switzerland and dedicated some years to social work with children in Austria and Portugal.

By coincidence he met Martin Rauch and worked four years in his company *Lehm Ton Erde*. Taking part in numerous construction projects, he got to know various rammed earth techniques and their particularities. To gain a deeper understanding of earth as a building material, he attended the advanced training *Fachkraft Lehm* in Germany. Since 2016 he is construction manager in the team of BASEhabitat. In 2021 he started his own company DADO Claywork. da-do.at

Max Weidacher is a craftsman and designer based in Vienna, Austria. He graduated as an architect at the Academy of Fine Arts Vienna in 2012. During his studies he spent one year in Ahmedabad, India, studying at CEPT University and traveling. From 2015-2017 he studied at BASEhabitat, working on a housing project by in Bihar, India. Returning to Austria, he joined Martin Rauch's company *Lehm Ton Erde* and has continued working there on a project basis. Focusing on circular economy in art, design and architecture he cofounded the studio zirkacirca. Max is currently finalising his thesis in rural Uganda. zirkacirca.com

Visiting Expert Martin Rauch

Martin Rauch founded the company Lehm Ton Erde Baukunst GmbH 1999, in Schlins, Austria. In cooperation with BASEhabitat he led several international workshops also in Bangladesh, South Africa and Austria. Since 2010 he is honorary professor from the UNESCO chair for Earthen Architecture. www.lehmtonerde.at



Dominik Abbrederis

Production- and Building Manager with Lehm Ton Erde Ricola Herb center, Basel, Switzerland 2012-2013

Swiss Ornithological Centre Switzerland 2013-2014

ETH Earth Dome Zurich, Switzerland 2014

King Abdulaziz Center Saudi Arabia 2014-2015

School Pavillon Allenmoos 2014

Personal Projects La Bodega, Mexico 2013-2014 Housing Project, Benin 2015-2016 Interior Design, Paraguay 2014 Rammed-earth oven, Austria 2015

DADO Claywork

various projects with rammed-earth, clay plaster, light loam, adobe and clay casein in Vorarlberg, Austria since 2021

Site Management for BASEhabitat

Max Weidacher

Project Cooperation with Lehm Ton Erde Reconstruction St. Martha Church Nürnberg, Germany 2018

Mochi Restaurant Vienna, Austria 2021

Project Site Management for Lehm Ton Erde Columbarium St. Elisabeth Bremen, Germany 2019

Hotel Adler Extension St. Ulrich, Italy 2022

wäh152, conversion of a studio for psychotherapy, Vienna, Austria 2019

Badehaus, renovation of a cabin in the woods, Styria, Austria 2020

rami ceramic studio, furniture for a co-making space, Vienna, Austria 2020

rami tea, conversion of a tea house Vienna, Austria 2022

Carried Maps, with Daniel Stuhlpfarrer, exhibition, Vienna, Austria 2023



In a previous workshop in 2014 we built a retaining wall of rammed earth. Today, after almost 10 years of weathering and use, erosion and signs of abrasion are visible. In the upcoming workshop, we want to take this as an opportunity to continue working on the wall. But we also want to build something new.

So this year's workshop comprises two parts: The LAB and the SITE. In the LAB we will explore the material's regenerative potential and use the wall as a basis for discussion as well as a showcase for techniques of repair. Because earth has no expiry date!

In contrary, the second part, the sITE, starts from the scratch. To gain application-orientated knowledge in building with rammed earth, we will prepare different mixes, construct formwork and move and compress a lot of material.

To ensure an intensive hands-on experience, the group will work in two teams that shift between the tasks.



We are looking forward to continuing our series of workshops at this year's Summer School, sharing skills, knowledge and experiences. We are happy to learn with and from each other.

Not only is it another occasion to meet people from all different backgrounds, but it also gives us a chance to pass on a bit of our passion for rammed earth and its potential.

For us, working with our hands is a truely satisfying experience. We will have a great time, ramming some earth together.







Earth+Fibres in Structures and Surfaces

Becky Little and François Streiff

Becky Little is a craftsperson who has worked with earth since the early gos. With a background in conservation she has wide experience of mudwalling (cob), earth mortars, wattle and daub, light earth, turf building and clay finishes in both repairs and new build.

Her company *Rebearth* also carries out materials and historic research, skills training and social impact projects.

As an artist she creates with local natural materials to explore themes of transformation, diversity and rewilding in a holistic and multi-disciplined approach. Her current body of work explores "The spaces in between" and combines elements of basketry, textiles and pottery with architecture and design. www.rebearth.co.uk **François Streiff** is architect for the Regional Nature Park of the Marshes of Cotentin and Bessin in Normandy. He has been working for more than twenty years on the preservation of wattle and daub and cob heritage and traditional raw earth and fibers techniques.

The action of the Park is as much today on the support and guidance of trained professionals, as in the training of architects and engineers.

François is also teaching at the ESITC Caen on the techniques of historic building and raw earth building, and at the School of Architecture of Normandy in the field of Science and Technology for Architecture on sustainable building, especially in the use of geo and biosourced materials.

www.cobbauge.eu



Becky Little – Rebearth

Errol cob shelter

Arc Architects *Rebearth* and the local community Errol, Scotland 2017

Repairs to historic cob, daub and turf buildings Rebearth Scotland 1992 - 2020

Various homes and offices in Fife

Rebearth using daub, mud bricks, light clay|hemp, clay plaster, earth floors Fife, Scotland 2014-2020

Clayfest, Workshops and Conference

ЕВUKI – Earth Building UK and Ireland organiser, speaker and trainer UK 2015-2021

Earth renders at the Chelsea Flower Show Rebearth London 2019

Cobbauge

EBUKI trainer and builder in an Interreg research project which aims to optimise the thermal efficiency of cob 2017 - 2020

Jump! Training for Change

EBUKI trainer. A European training for trainers project, about transformation and eco-building. 2019-2020

TransFORMation

facilitator and lead artist, project on and with the land raising awareness about sustainability of people and place, Fife 2020

Terre, Femmes et Savoir-Faire

lead trainer 2022. A project to develop and promote women and training in earth construction, Lyons, France 2022

Build School Fife

workshops in traditional methods and modern applications with earth and fibre. Scotland 2021-2022



Francois Streiff

Resurrection of a Gallic Habitat

Archaeological Museum of Lattes Archaeologist Training 2010 | 2011

Energy Pavilion Meadow and Sheep Shelters Demonstrative Projects 2013 | 15 | 17

Workshop Asterre Lyon Confluence Museum Ephemeral Installation 2016

Reverse the Curvature of the Earth Experimental Constructions with ENSAN students 2015 | 16 | 17

Workshop Grains d'Isère Ephemeral Constructions GAIA France since 2014

Extension of the Park House Technical Assistance of a Tertiary Building in wood | straw bales | cob | wattle and daub | clay plaster 2016

National choreographic center in earth and straw

Supervision of the building in a participative workshop of a NCC within the framework of an artistic happening by the artist Claudia Triozzi - 2019

CobBauge experimental pavilion

Building of a prototype experimenting a new technology of mixes of earth and fibers within the CobBauge project 2019-2020



By experimenting with the nature and length of different fibres, the quality and composition of the soil, and changes in water content, we will show how these parameters can influence the design, construction, and aesthetics of earth building. We will discover together a rich and diverse spectrum of traditions and modern applications in cob, daub, light earth and plasters and the participants will make their own creative and sensory experience in structures and surfaces using local natural materials. We also have the opportunity to renovate the clay plaster of a local building to learn about repair and maintenance of earth.

Each method will be approached as an experiment to explore the nature of the different materials and methods and how they work together.

- :: traditional and contemporary building culture of daub, cob and clay plaster
- :: processing methods for earth and fibres mixes
- :: understanding the use of different earth and fibre mixes in structures and finishes



This workshop is for us a great opportunity to finally put hands (and feet) into a common construction. We have been crossing paths regularly for several years, which has allowed us to share our passion for these wonderful mixes of fibres, soils and water that have housed and still house so many people on every continent. We look forward to sharing what we have learnt about earth heritage and traditions and how it inspires us today to respond to the current challenges of eco-responsible construction.





Bamboo

Luisa and Verónica Correa, Daniel Stamatis

bambuterra

Bambuterra is a company for design and construction with bamboo and other nonconventional materials, founded in 2013 by Verónica and Luisa Correa. Bambuterra rescues ancient building methods and enhances them with technological innovation. Over the years several construction systems with bamboo poles and a software for structural design for prefabricated bamboo constructions has been developed. Bambuterra has realized various projects at different scales and is offering different educational programs and workshops. www.bambuterra.com.mx

Luisa Correa is colombian, currently living in Mexico. She got her Bachelor degree in Architecture at the Universidad Nacional de Colombia, and did studies of Master in Architecture at UNAM in Mexico City. Luisa started teaching bamboo workshops focused on community buildings and cultural centers in Mexico City in 2012. That same year she managed her first bamboo and earth construction projects and has been designing and building with bamboo since then. At Bambuterra, Luisa regularly teaches building workshops to university students and interested people, and she is the Project and Commercial Director. At Bambuterra she collaborated in the development of the BiBa®, a prefab building system for walls and roofing made from bamboo. As a project leader she has participated in the design and construction of more than 70 bamboo structures.

Verónica Correa, Civil Engineer from the National University of Colombia and Master in Structural Engineering from UNAM, Mexico. She is a founding partner and CEO of Kaltia®, a Structural Engineering Consultancy Company, partner and CEO of Bambuterra®, member of the INBAR Construction Task Force, and also is part of the Colombian Seismic Engineering Association. She has been visiting professor for different chairs for universities in Mexico and other countries.



Bamboo

Luisa and Verónica Correa, Daniel Stamatis

Verónica Correa also is a member of the National Council of Wood in Construction in Mexico, of the drafting committee of the Complementary Technical Standards for the Construction Regulations of the Federal District. She currently participates in the Mexican technical committee for the Spanish translation of *iso* 22156 (Bamboo culms – Structural design) and *iso* 19624 (Grading of bamboo culms); and in the committee for updating Colombian technical standards for design and construction with wood and bamboo. Since 2002 Veronica has been based in Mexico City.

Daniel Stamatis is a Doctor of Philosophy in engineering specializing in renewable architecture from the Huazhong University of Science and Technology, China. His field of research is the design and construction of bamboo. His mission is on co-developing the possible uses of modern bamboo construction methods. The question is how crafts and digital technologies come together to vanish the limits between the rural and the urban settings. He also received a Master's degree on Engineering specialized in bamboo landscape architecture, from the Nanjing Forestry University, China, and a bachelor degree in architecture from ITESM University, in Monterrey, Mexico.

During his years in China he created chusdoit.com, a project focusing on bamboo architectural design using the model making approach combined with digital tools, and sharing the processes for educational purposes. Since 2022 he is Associate Director of Academia Bambuterra, a platform for education and knowledge transferring for chain value of bamboo in construction.



Casa Rural (*Rural House*) Construction of a social housing prototype for a rural context, México, 2019

Mercado Local (Local Market) Design and construction of 15 commercial kiosks México, 2018

Amate Camp Design and construction of two structures within a yoga retreat center Tepoztlán, México, 2017

Un cuarto más (one more room) Construction of social housing extension prototype México, 2017

Bodega Textil (Textile Warehouse) Construction of an overhang for a 16 meter-long opening México, 2017 **Ciudad de las mujeres** (*Woman City*) Design and construction of shading structures, México, 2016

Binbalak house Mexico, 2023

The Summit Mexico, 2021

Anji pavilion (Daniel Stamatis) China, 2019



Bamboo is a versatile resource with more than 10,000 registered uses, which as a building material can be used either in remote communities or in urban settings; it fits either limited budgets or high budget projects; it can provide simple structures using low-tech techniques and tools and can create contemporary high-tech solutions.

As bambuterra we combine a wide range of know-how in bamboo construction, across different fields of application.

During this workshop participants will learn about the transformation process of this giant grass into a permanent construction material. They will also explore the fundamentals of sustainable bamboo architecture through hands-on exercises supported by theoretical teachings.

The workshop will explore engineering principles through a variety of bamboo carpentry and joinery exercises at different scales, from model making to building a structure in real size. There will be plenty of opportunity to explore hands-on the possibilities and limitations of this fascinating material.



Bamboo, despite its many different uses, remains unknown to most architects and builders. This workshop is an opportunity to create awareness about the advantages (and disadvantages) of building with this natural material. We love to get our hands dirty, so as we learn about bamboo, we would not miss the opportunity of having outdoor fun doing something we love: to design nd build.

Just as importantly, we see this as a great opportunity for us to learn from a community of like-minded people. We look forward to share our experiences and exchange ideas with the summer school participants.



Choose two favourite workshops...

- Each workshop takes place twice during the two • summer school weeks.
- Each workshop lasts 4.5 days. •
- Participants choose one workshop for the first • week and one for the second week.
- The group size is between 20 and max. 25 • people.
- During the workshop, several samples and ٠ elements are built on site, ranging from tests to real scale.

- After your successful registration, we will ask • you for your preferences regarding the workshop selection and assign the participants to the topics.
- There is time for an exchange between the diffe-• rent workshops. You will get a deep insight into each other's work.

Kunstuniversität zur University of Arts zur



