

**ON
OFF**

ARCHITECTURE OF THE EARTH

_FALL 2022 // MATTER TO DATA STUDIO + WORKSHOP

#mattertodata

ON/OFF

2022 Fall studio

2023 IAP workshop in Menorca

Professor:

Antón García-Abril, ensamble@mit.edu

Teaching assistant:

"Architecture emerged from the earth. From its extraction and cultivation, and the effort to move its parts. And from the fascination of stacking them, putting them together and celebrating, discovering and inhabiting the space. The efficiency of the location was sought, the accessibility to the matter, limiting the effort. And modules that could be easily assembled were searched; tools were designed to work the earth, the stones, the fibers and metals, which are also stones. When these instruments became sophisticated, the places where we could build multiplied, transporting materials and tools, developing technologies and crafts; with the architect ordering this conglomerate..."

STUDIO OVERVIEW

The fall studio seeks to analyze the location and through the #mattertodata methodology develop an architectural project for artist residences in La Illa del Rei, Menorca. The analysis of traditional materials and building practices in conjunction with experimental #mattertodata techniques will allow the student to explore and push the boundaries of architectural design.

The program of Artists' residences will form part of the creative process. The student after a thorough analysis of referential material and context will propose the relation with Hauser Wirth gallery beside.

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#mattertodata is a space for experimentation. A testing ground that seeks to connect our head with our hands and our hands with the materials that build architecture. It is through this intimate encounter that we can understand, learn and unlearn, maybe then innovate. A space for *Action*.

#mattertodata explores the extraction of valuable creative resources from the manipulation of matter, and the exposure to the common forces and energies that constitute the spatial event, to be transformed into data, source to engineer, detail, and prescribe architecture documentation. This reverse process of design will allow students to explore the immense complexities of play with matter, the observation and analytical outlook that architects develop to read the spaces that the game generates, and how to transform them into architecture.

LOCATION

The location will be in Illa del Rei, Menorca. An Island situated within the bay of Mahon with a rich history that reflects the complexity of Menorca's history and culture.

Started as the first touching point of King Alfonso III of Aragon during the Christian conquest of the island, then moved on to be a British naval hospital, passing to the French and Spanish. Finally, in the 21st century, it has since 2021 become a cultural hotspot where the Spanish branch of the art gallery *Hauser and Wirth* is located.

This rich cultural baggage that is carried on to contemporary culture is an indicator of how any intervention should be consequential in its nature.

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Research Methodology:

With this framework, through analyzing the material nature, production methods, and typical applications of ready-made constructive units, alternative uses to the prescribed ones are tested, structures built and spaces imagined without the constraints of specific programs, sites, or given geometries.

Through an iterative design process of making, students develop from experiments to prototypes of discovered solutions, understanding the limitations of the materials and products they work with while exploiting their untapped possibilities. Empirical work is carried out both as scientists and artists -carefully monitoring each step and using improvisation as a creative tool-encouraging productive discovery from experiments as a way of inspiration and evolution of the work.

From physical construction to digital scanning, to audiovisual documents and instruction manuals, media -the necessary ally for design production and dissemination- is also understood as a site for creative exploration.

ON/OFF is a hybrid studio, between Hands-On models, sessions, and online classes, in which students will integrate research, fabrication, and design. This studio will focus on imagining and designing Artists Residences in Menorca, following the lessons learned from Jørn Utzon's Can Lis House as a reference, for others meant to be identity. Through the use of analysis and group discussions, students will set the dimensions and program as part of the design process and following the use of the **#matteredata** methodology, will finalize their creations.

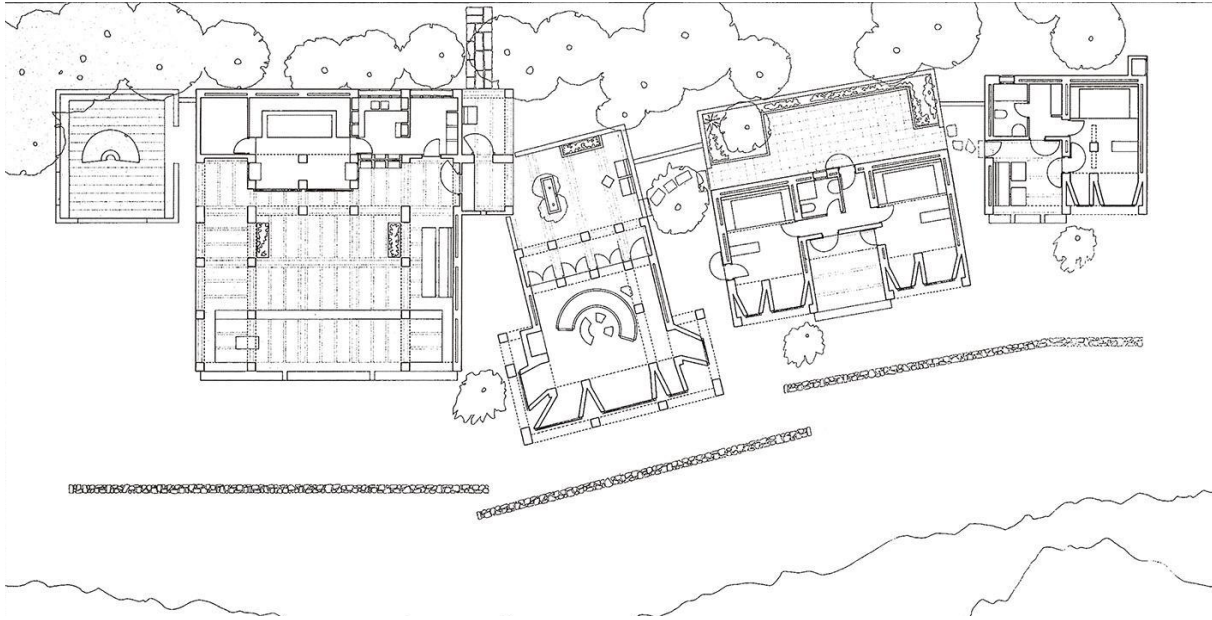
“Can Lis,” named after Utzon’s wife, is one of the most important houses of the 20th century. The house is planned as an organic, unified whole erecting four separate buildings, each with its function: bedroom buildings, a living room building, and a kitchen and dining room building, facing a partly covered patio with views towards the sea.

Cann Lis reinterprets traditional Majorcan building methods and the use of local building materials, such as marés sandstone on its outer walls and columns, santanyi sandstone on its floors, interior walls, and kitchen worktops, and madera norte, a Majorcan pine, for all the woodwork.

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LINKS:

Illa del Rei

Timeline history: <https://www.islahospitalmenorca.org/en/history-2/historical-chronology/>

Wikipedia: https://en.wikipedia.org/wiki/Illa_del_Rei

Documentary video: https://www.youtube.com/watch?v=W_8QJDFu1n0&t=28s

Hauser and Wirth: <https://www.hauserwirth.com/locations/25040-menorca/>

Can Lis

- https://en.wikipedia.org/wiki/Can_Lis#:~:text=Can%20Lis%20is%20a%20house.together%20by%20walls%20and%20courtyards.
- <https://www.designboom.com/architecture/jorn-utzon-can-lis-family-home-mallorca-08-02-2019/>
-

Student Learning Outcome Objectives:

This workshop welcomes any student who has the willingness and intention to analyze, experiment with the threshold of physical **#mattertodata**, question their results, and if needed so; persevere and go back. A student who can have and get involved in the sharing of ideas and building a collective project, and who is willing to have active participation in this adventure in the class and through collaborative online platforms.

This is a hands-on-line studio. Students are expected to follow a continuous line of work both independently and as a coordinated online group, with and without the instructor. *spaces+* and *Google Meet* will serve to build a class diary/community where each student is responsible to share the evolution of the work and any other related materials that contribute to enhancing the class conversations.

Seminars are intended to expand the technical skills of the students and to start exploring intuitive approaches through iterative model studies that can help develop their ideas.

Students will learn how to transform their physical models with the aid of the most advanced 3D scan techniques, hardware, and software in a workshop. Students will learn to 3D scan their

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model and its textures, from **#mattertodata**, 3D post-processing, and working with the final selected model.

Students will have the opportunity to learn and collaborate in an academic experience that will enrich their theoretical concepts and help transform them into practical applications.

The approach the studio takes devolves around the threshold of physical and digital practices towards design this results in the creation of a wide array of deliverables that will include but not be limited to, case studies, models, drawings, engineering, and construction, with a focus on 3D printing and 3D scans, 3D printed molds, structural reinforcements, concrete casting, etc. Models and mockups will be heavily utilized and will be a key part of the Studio.

Deliverables:

All materials will be progressively produced throughout the studio as essential parts of the research, helping the design effort versus serving as mere means of representation. Different media will be part of the experimentation agenda and students are encouraged to be creative with design and with the tools that help develop it.

→ Google SPACES OnlineDiary

→ Working Models

- Physical Models: from concept to construction: unlimited
- Photographic Material documenting models
- 3D scans of models testing scale and context, translated into animations

→ Documentation

- of Spatial Experience
- of Construction Process

→ *15 minutes of fame* as final video delivery.

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Schedule:

(Week 01 - 08 : Research & Design development / Week 08 - 10 : Final production & Documentation)

- **Week 01: Studio Introduction and Online Warm Up**
Presentation
Set-up of online tools (Google Suite & Google Currents):
online communication and sharing of first ideas/ intuitions/ doubts.
- **Week 02: Topic Research & Case Studies**
Student presentations and group discussion.
- **Week 03/07: #mattertodata**
Prototyping Models/ Mockups testing/Scanning/Design/Engineering
- **Week 08: Mid-Term Presentations & Reviews**
Date TBD. #Midtermisthenewfinal
- **Week 09: Audiovisual Documentation kick off**
-
- **Week 10: Production**
Online Submission* of Final Review v.

FINAL REVIEW

Date TBD.

Portfolio Preparation/Final Digital Submission Video**

APPLICATIONS:

Please email your application to: ensemble@mit.edu

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PREREQUISITES:

None.

**Online submissions will be shared to all the Google Spaces and show the work evolution. It should consist of a narrated audiovisual that explains the progress of the project plus a link to materials. These materials will be gradually taking the form of the final studio publication.*

ON/OFF PROGRAM

- FALL 2022:

On-line studio

- Architecture of the Earth

Villa/s design:

- artist residences Program & Design

- IAP/ 2023:

Workshop in Menorca

- proto design/build
- 3D scanning of earth textures and models
- 3D post-processing
- Work with final data