



The year 2023-24 marks the start, for Atelier Weinand, of a large-scale study on the subject of log architecture. Indeed, after a major period of research devoted to timber plate structures (2005-23), the IBOIS laboratory, headed by prof. Yves Weinand, would now like to examine the environmental virtues of timber construction in the light of the industry in which it is used. The working hypothesis is to recreate the link between material and territory by using digital innovation to create a performant workflow between architecture and engineering, focused on the knowledge and use of wood.

The first episode of this study, conducted during the autumn 2023 semester, was based on two distinct research phases, the first dedicated to a case study, the second to a project-based and constructive experimentation. Based on a varied selection of architectural projects from the 1930s to the present day, the case study first highlighted and compared different experiments in log and/or rough-hewn timber construction. This work reveals the particular character of this type of construction through various aspects, from taking into account the place of extraction of the wood to the techniques of working and assembling the logs.

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Following on from this initial study, the second part of the semester was then devoted to a project exercise. Staying at the assembly scale, the ambition was to propose innovative log construction solutions with a view to architectural application. From digital design to the manufacture of 1:1 scale prototypes, the projects developed reveal a wide range of experimentation and offer potential for the development of architectural projects in round or rough timber.

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project : Albert Assy & Oscar Lallier, image : Mélanie Schroff
(next page) project : Arthur Billotte & Oskar orsblom, image : Mélanie Schroff



ep. II : a multi-purpose log building > a wood and forest school in the French Alps

The Haute Ecole du Bois et de la Forêt (HEBF) is a joint project involving local authorities in the Hautes-Alpes department of France (Communauté de Communes du Pays des Ecrins et Serre-Ponçon, Ville de l'Argentière-la-Bessée, Ville d'Embrun), manufacturers in the wood industry and specialist research centers throughout the Alpine region. The aim of this European project is to unite players in the forestry and sustainable construction sectors around a higher education cluster, in order to provide the best possible support for the ecological transition.

Spread over two sites, one in Embrun for architecture, the other in l'Argentière-la-Bessée for forestry and wood, the school is due to open in 2027, bringing together more than 500 students, multi-disciplinary teaching and research teams and professional contributors. Several levels of training will be offered, from bachelor's degrees to specializations, as well as certified continuing education courses.

At L'Argentière-la-Bessée, the academic center that will be the first school in France to specialize in the theme "de l'arbre à l'ouvrage", the program will be divided into 4 areas: production, construction, marketing and forestry. In Embrun, the ambition is also to create the first architecture school specializing in wood, bio-sourced materials and the integration of energy efficiency into design. By setting up in the heart of the Alps, the campus will be as close as possible to natural and entrepreneurial resources, but also to a region in transition, with a rich local heritage and an openness to the wood construction industries of the future.



In the summer of 2023, the HEBF was the subject of a multidisciplinary study week focusing on the project's challenges, during which workshops, conferences and visits to the region were organized.

image : Les rencontres de la Haute Ecole du Bois et de la Forêt (2023),

source : <https://www.tiers-lab.com/atelier-hebf/>

Les rencontres de la Haute École du Bois et de la Forêt

2-8 juillet 2023
Guillestre (FR)



Habiter la montagne, habiter la forêt

ep. II : a multi-purpose log building > *an industrial site in conversion*

The campus site at l'Argentière-la-Bessée is a former industrial zone. The town's name derives from the presence of silver mines, whose exploitation dates back to medieval times and ended at the beginning of the 20th century, to be replaced by aluminum production. At the turn of the century, the hydroelectric power station that supplies the plant was the most powerful in Europe, thanks to the extensive penstocks that are still visible in the landscape today. The industrial facility was subsequently bought out several times, and Les Aciéries et Fonderies de Provence (AFP) finally closed the site in 2011.

The project site is a wasteland of just over 20'000 m², with several large, derelict buildings and warehouses. While most of them are of no particular heritage interest and should not be preserved, the large hall on the eastern edge of the site will be rehabilitated.

With a view to the construction of the campus by an external contractor, a team of experts from Turin Polytechnic has been entrusted with the study of the project's programming and layout on the brownfield site. The final pre-project, to be completed in 2023, outlines the main lines of development for the site, defines the programmatic poles and quantifies the surface areas required for each sector.



ep. II : a multi-purpose log building > a new international academic campus

The master plan follows the layout of the existing site, integrating the hall in its entirety. Parallel to the hall, along the main road running around the site to the west, residential buildings will be built along the entire length of the plot. Between the two, directly linked to the hall which will be transformed into workshops, buildings dedicated to teaching, catering and start-up facilities will be arranged perpendicularly.

A more singular building completes the composition, standing alone to the north of the plot. Comprising reception and administrative services, as well as a media library and 180-seat auditorium, it subtly activates the entrance to the site while integrating with the master plans.

Atelier Weinand's spring semester assignment focused on the program for this multi-purpose building. Based on the studies and experiments carried out in the autumn semester, the project consists of an architectural and structural proposal for this reception building, built in whole or in part in round or rough timber.

Program

total surface: around 2'265 sqm

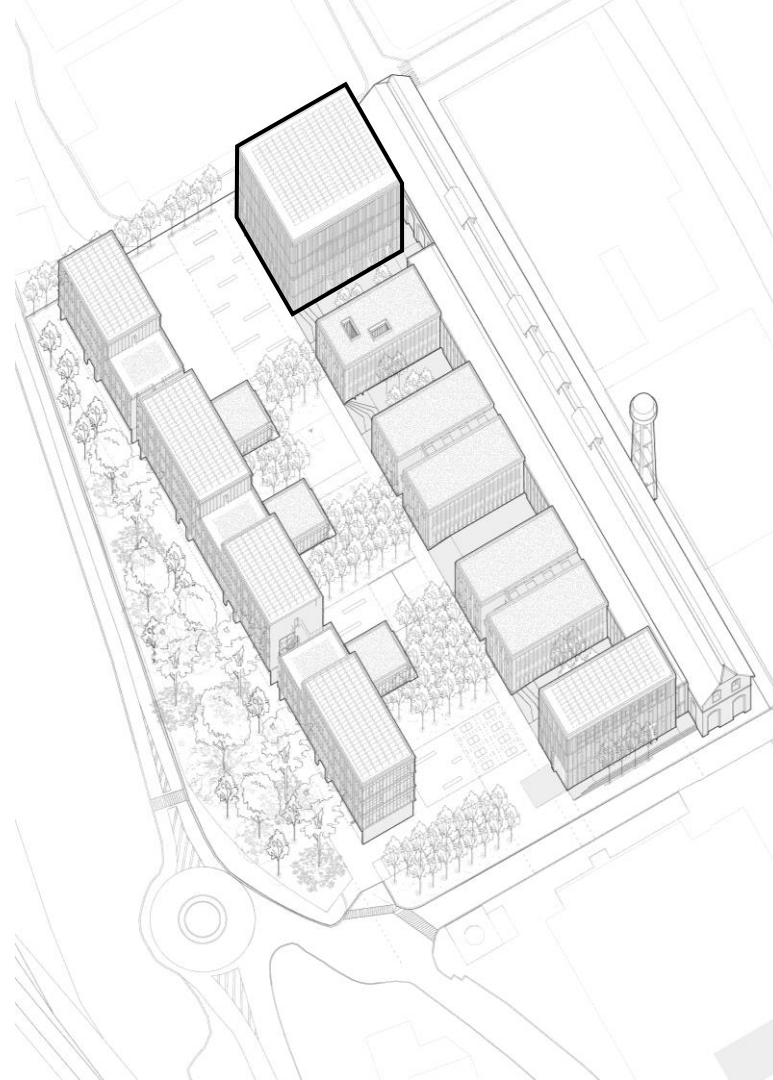
total volume: 14'000 cbm

number of floors: 3

offices capacity and dimension: 50 places, around 380 sqm

library capacity and dimension: 100-120 places, around 550 sqm

auditorium capacity and dimension: 180 seats, around 600 sqm



**1 semester, 2 phases,
> 1 project**

With the aim of proposing an exemplary building project, in keeping with the ambitions of the HEBF campus, the semester is divided into 2 phases: the first will be dedicated to the architectural project and structural concept, the second to the collective development of a common proposal. Over the course of the semester, you'll be able to put together a coherent, finished project, from the urban scale down to the smallest detail.

1: project and structural concept competition

The first part of the semester will be carried out individually or in groups of 2. In the form of a competition, each group will have to develop a complete project proposal according to the given site and program. This proposal should feature an innovative structural design in round or rough timber. At the end of this first phase, a jury will be organized. Its role will be to define the major potential to be developed in each proposal.

2: collective development and test phase

The second part of the semester will consist of developing a collective project proposal, made up of the elements identified in the first phase. The studio then acts in a common interest, divided into thematic groups, but collectively committed to the production of a unified and rational proposal at all scales. By studying the project from the smallest to the largest scale, this second part will also be an opportunity to push the study of construction right up to the production of 1/1 scale prototypes. This test phase will provide an opportunity to try out the construction and assembly of the materials involved, and to experiment with the relationship between the material and the digital and/or manual tools used.







(previous page) image : Oscar Lallier
image : Oscar Lallier

Study trip

> *L'argentière-la-Bessée, Massif des Ecrins*

At the beginning of March, a trip will be organized to l'Argentière-la-Bessée. The trip will provide an opportunity to visit the site and the region in order to enrich the project with a better understanding of the surrounding landscape. It will also be an opportunity to meet local architects, industrialists and craftsmen - such as Les Compagnons du Devoir et du Tour de France - as well as to exchange ideas with those in charge of the project on site.

The program is currently under development, and will be announced once registrations have been finalized.



