BESPOKE TIMBER

for

A REMOTE TRAIN STATION

STUDIO WEINAND
Spring semester 2022

IBOIS
EPFL

STUDIO PEDAGOGY

Ars x technè

Team

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architect and engineer

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and head of IBOIS

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Teaching assistant
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MSc. engineer architect

Teaching assistant
and PhD student

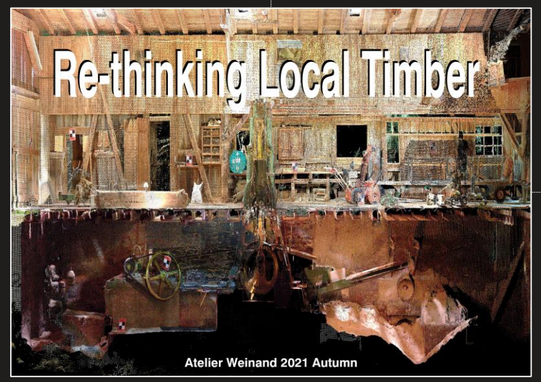
François Perrin
carpenter

Technical advisor
and security coordinator

STUDIO AIM

The teaching at the design studio Weinand revolves around the idea that architecture, structure, form, and material ought to be thought together in a holistic manner to participate actively in the elaboration of coherent projects. The studio aims at developing projects that are not only architecturally interesting, but also integrate constraints linked to fabrication processes and assembly sequences. It is our core belief that the role of the architect is changing: as the construction sector is a major stakeholder of the ongoing environmental crisis, construction processes and their associated environmental impacts need to be better integrated in the design intentions. In addition, as the profession is moving towards more automation, architects will have to be able to control their geometry, master the processes of fabrication of the different pieces and, ultimately, to be able to talk face-to-face with the engineers and companies to develop the construction method that better fits their architectural intent. Furthermore, thanks to these tools of digital fabrication, and the now large array of timber products available in the industry we think that timber has a large role to play in the emerging architectural scene. We aim at preparing young architects to evolve in this new paradigm, providing them with the basic tools of parametrization and offering them the possibility to test their ideas both virtually (with 3D models and point-clouds), and physically (with prototypes and details mock-up).

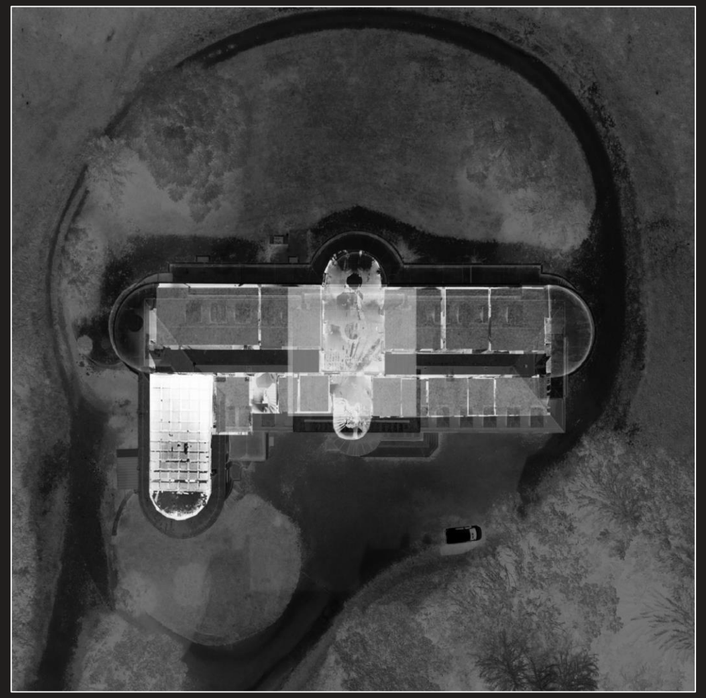
Previous editions



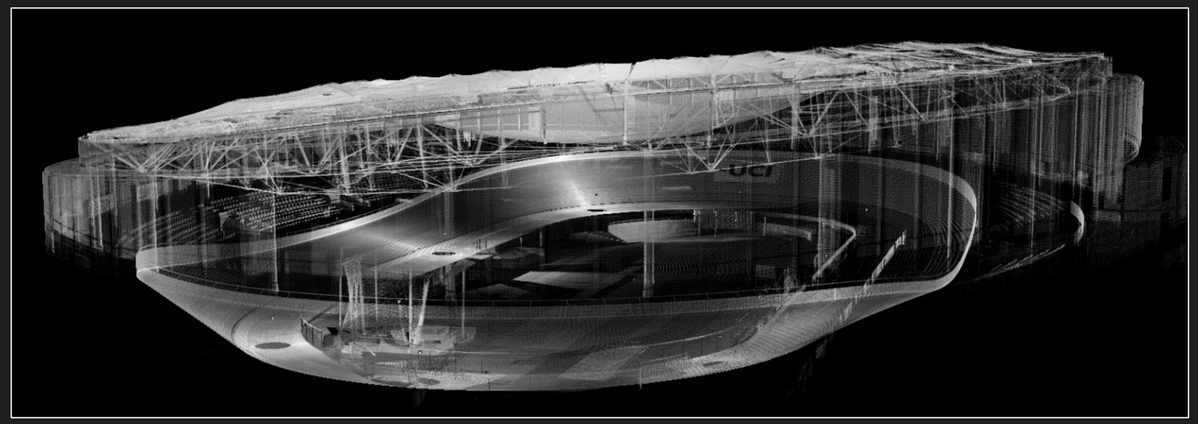
KEYWORDS

TIMBER_DETAILS_PARAMETRIC_PROTOTYPES_CONSTRUCTION_STRUCTURE_ASSEMBLY_FABRICATION_DIGITAL_POINTCLOUDS_SCANNING_INTEGRATED_ADAPTATION_TRANSFORMATION_CNC_HERITAGE_ROBOT_RESOURCES_REUSE_LOCAL_SUSTAINABILITY_VERNACULAR_PERFORMANCE

Virtual and physical explorations

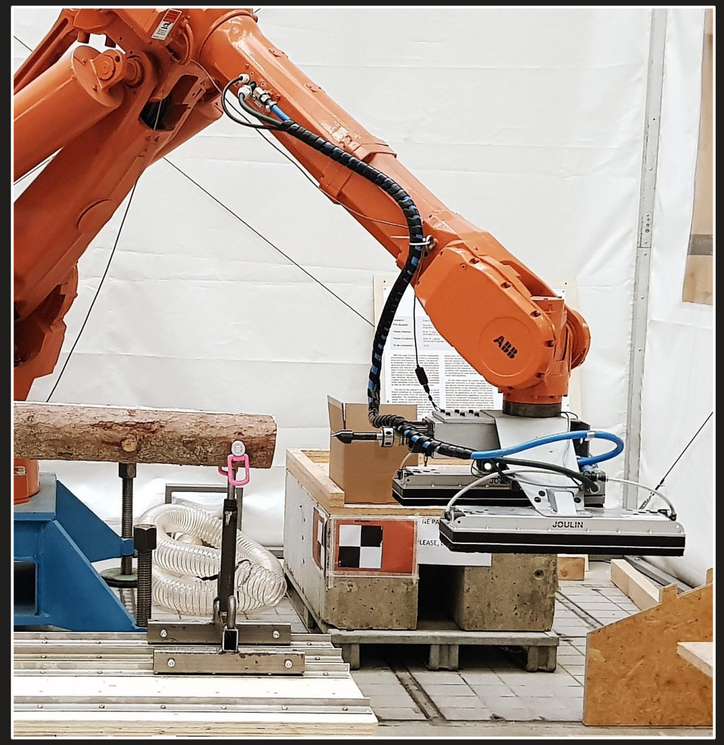


Between
point clouds
and prototypes



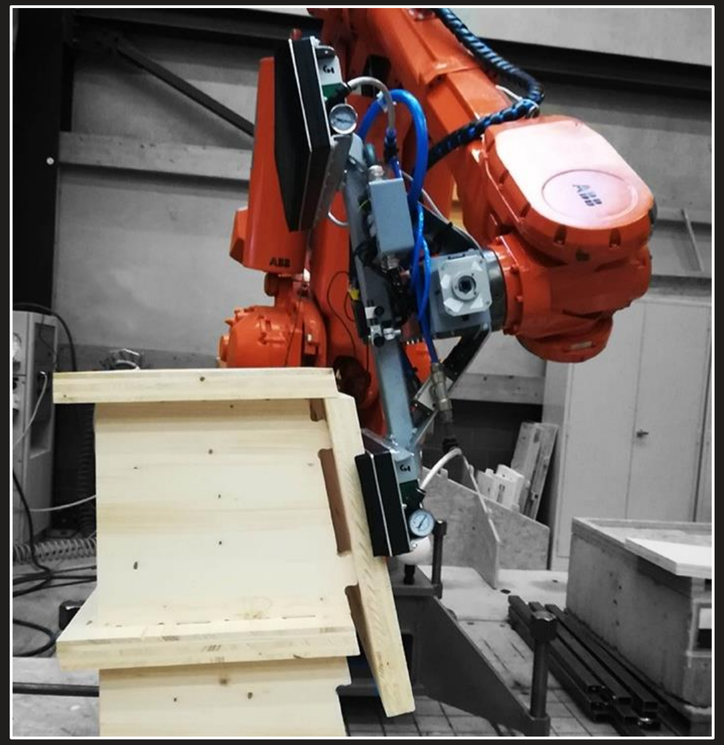
A teaching infused by research experience

Digital fabrication



Ongoing research: Petras Vestartas

Robotic assembly



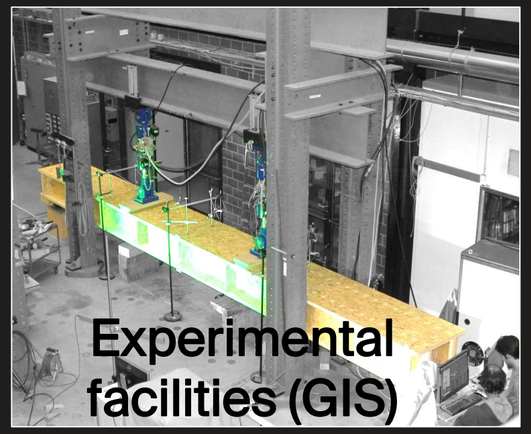
Ongoing research : Nicolas Rogeau

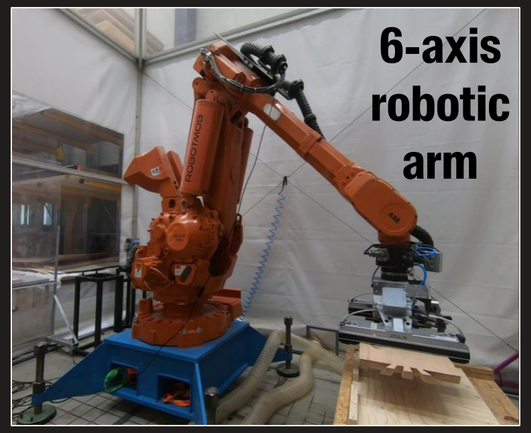
Laser scanning

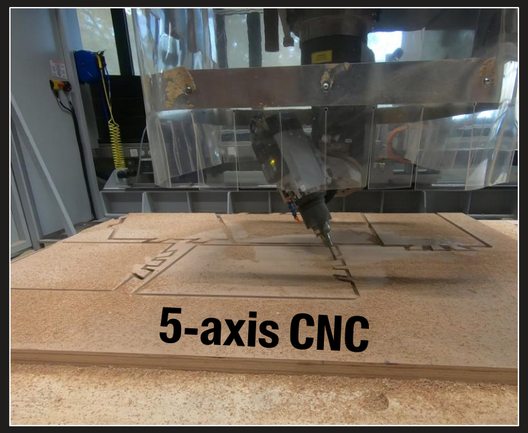
Ongoing research : Andrea Settimi

IBOIS Toolbox

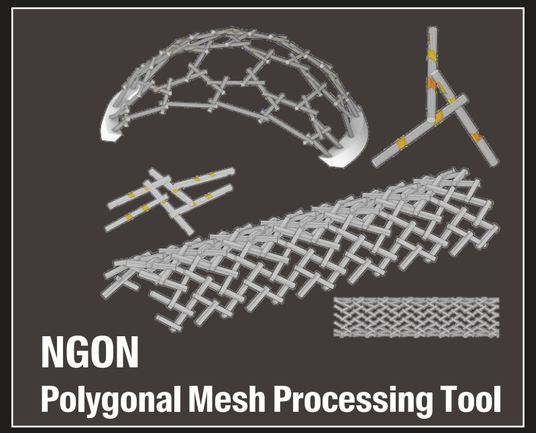
Prototyping equipment

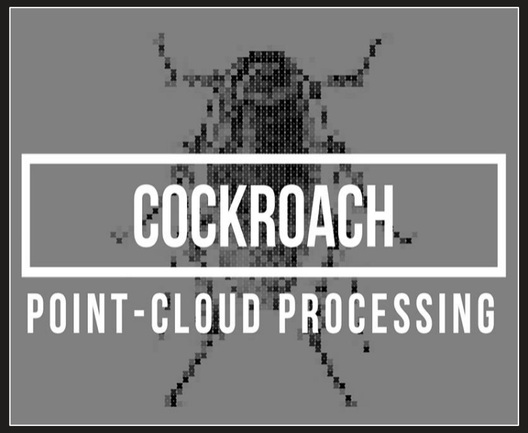






Computational design tools

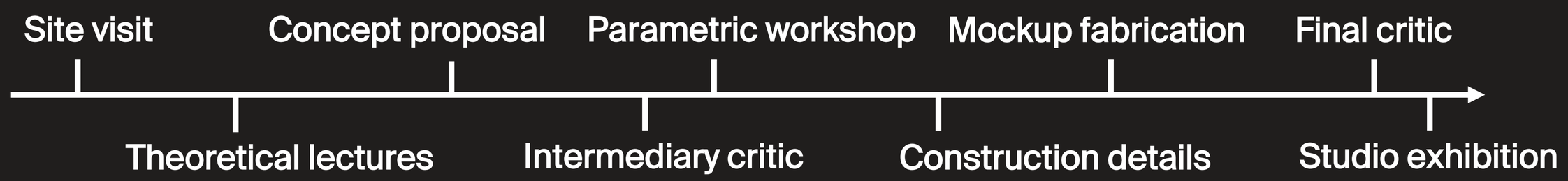




Studio planning overview*

PHASE 1: ARCHITECTURAL CONCEPT

PHASE 2: CONSTRUCTION PROCESS



*A detailed planning of all studio activities will be sent before the beginning of the semester.

STUDIO PROJECT

Rochers de Naye

From the lake to the mountains

Reaching up there

Two seasons

A century ago...

Project and program proposal

Students will design a timber alternative for the train station of the Rochers de Naye. The proposal should respond to the broad variety of leisure activities taking place during the whole year on top of including catering and transportation services. The challenge will be to develop an innovative timber structure that addresses the remote location of the site while minimizing the project environmental impact. Focus will therefore be set on integrating fabrication and assembly constraints early in the design process. In order to best support the students in this project, various lectures, workshops, participatory roundtables, and visits of timber construction companies will be organized during the semester.

QUESTIONS ?

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