DOC.DAYS {EDAR}

An Event for PhD Candidates of the EDAR Programme
Open to the Whole Community

Organised by:
Anna Karla Almeida (LAB-U)
Michela Bonomo (ACHT)
Phi Nguyen (LAB-U/HEAD)
Helena Roux (CdH)

17 & 24.04.2023

13h00 - 18h00 | FOYER AND HALL SG

docdays.cargo.site docdays@epfl.ch

EPFL

DOC.DAYS {EDAR}

An Event for PhD Candidates of the EDAR Program
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17th April 13:00-18:00

With Corentin Fivet (SXL)
Gabriele Manoli (URBES)
Stefana Parascho (CRCL)
Albena Yaneva (Manchester UNI)

The PhD Candidates:
Tanguy Auffret-Postel (TEXAS)
Marcela Delgado (LDM)
Estefania M. Botias (ALICE)
Chloé Joly-Pottuz (FAR)
Adam R. Swietek (LEURE)
Ankita Singhvi (HERUS)

And Post-Docs:
Andre Patrão (Yale)
Valentin Bourdon (HRC)

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EPFL

DOC.DAYS {EDAR}
17th April 2023
FOYER SG, EPFL Lausanne

FIRST DAY GENERAL SCHEDULE

13:00 Opening Speech
by Elena Cogato Lanza
(EDAR Director) & Doc.Days Team

FIRST PANEL
13:10 - 15:00

15:00-15:10 Break

SECOND PANEL
15:10 - 17:00

CLOSING LECTURE
17:00-18:00
'On Methodology'
Lecture & Discussion with
Dr. Andre Patrão (Post-Doc YALE) &
Dr. Valentin Bourdon
(HRC, EPFL)

18:00-19:30 Apero

From 19:30
Dinner for Invited Speakers

Discussants

Corentin Fivet (SXL, EPFL)
Gabriele Manoli (URBES, EPFL)
Stefana Parascho (CRCL, EPFL)

Albena Yaneva
(University of Manchester)

DOC.DAYS EDAR
17th April 2023
FOYER SG, EPFL Lausanne
DETAILED PROGRAMME

13:00- 13:10 Opening Speech by Elena Cogato Lanza &
The DocDays Team

13:10-13:40 - Presentation #1 & Discussion
Adam Robert Swietek (LEURE, EPFL)
Visual Capital: Large-scale assessment of building-level visual landscape quality

13:45-14:15 - Presentation #2 & Discussion
Marcela Delgado (LDM, EPFL)
Virtual Entanglements: Tracing the Human-Nature Dichotomy

14:20-14:50 Presentation #3 & Discussion
Estefania Mompean Botias (ALICE, EPFL)
Architectures of Emergency. Sentinel operations for a rapidly changing environment

15:00-15:10 Break

15:10-15:40 Presentation #4 & Discussion
Chloé Joly-Pottuz (FAR, EPFL)
How do the limitations and potential in the use of a building material impact the architectural production of a place? The case of wood in Rapa Nui

15:45-16:15- Presentation #5 & Discussion
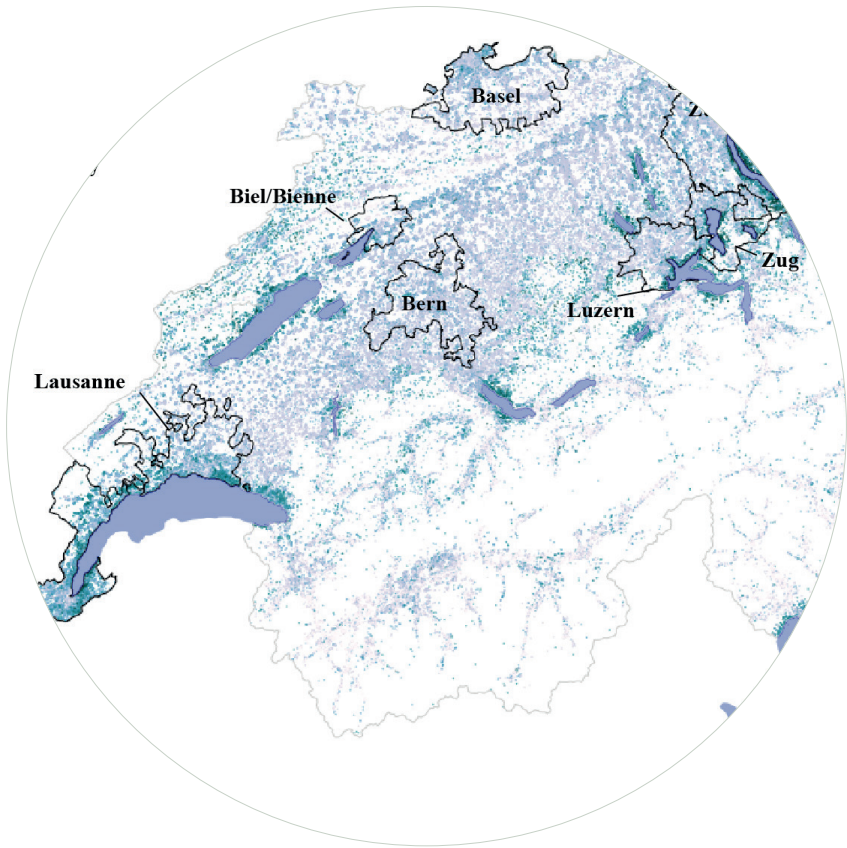Tanguy Auffret-Postel (TEXAS, EPFL)
Airtight — Spacetight
Influence of airtightness technology on the conceptual approach to space in the 1990s

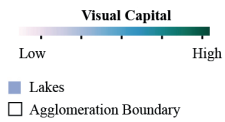**16:20-16:50- Presentation #6 & Discussion**
Ankita Singhvi (HERUS, EPFL)
Questioning obsolescence: When does a dwelling reach the end of its life?

17:00-18:00 Lecture 'On Methodology' via Zoom followed by Apero

Visual Capital of Swiss Building Stock

Visual Capital

Low   High

Lakes
Agglomeration Boundary

Visual Capital of Swiss Building Stock

Adam Robert Swietek

(LEURE: Laboratory of Environmental & Urban Economics)

Visual Capital: Large-scale assessment of building-level visual landscape quality

Visual landscape quality is an important determinant of real estate decisions and valuations. To assess building-level visual landscape quality, the large-scale parameterization of a view is required in conjunction with a measurable view-outcome, such as real estate sales prices. In practice however, obtaining both metrics with sufficient geographic coverage has remained challenging. To overcome this limitation, we construct a scalable measure of visual landscape quality by first defining building-level view-metrics derived from a large-scale digital representation of Switzerland's building stock containing 33 million viewpoints. Leveraging the principle of income-sorting, we estimate visual preferences by calibrating the building level view-metrics with commune-level incomes (CLI). The learned model captures common intuition on visual preferences, i.e. attributing positive weight to lake-views, and identifies context-dependent relationships between view metrics. To contextualize the derived quantitative measure, we refer to the preference for a building's portfolio of viewpoints as a building's visual capital (VC). By assessing the supply of VC across Switzerland's entire building stock, we uncover an association between VC and the urban and natural form. Where urban density and landscape topology explain the strength of view-driven-income sorting across agglomerations. We demonstrate that spatial clustering of visual capital varies across cities and frequently crosses administrative boundaries. Finally, we release a privacy protected version of visual capital to enable downstream studies focused on correlates of visual landscape quality (whether financial, social, environmental or physiological), and to promote future interdisciplinary studies.

Adam R. Swietek is a PhD candidate in the Laboratory of Environmental and Urban Economics. At EPFL, he is focused on using computational methods to leverage new forms of urban data, creating quantitative measures of qualitative attributes of buildings that can be used to inform automated urban design procedures.

Caption: urban, biodiversity, mobility, trade-offs , Stable Diffusion Demo

Marcela Delgado
(LDM: Media and Design Laboratory)
Virtual Entanglements: Tracing the Human-Nature Dichotomy

Given the upward trend in urbanization and the alarming decline in global biodiversity, it is vital to design for urban growth that supports all life forms. The anthropocentric bias ingrained in the way we sense and view the city, however, inhibits the development of future imaginaries aimed at multi-species co-existence.
This thesis aims to nurture the cultural imagination by visualizing phenomena that occur at inaccessible scales and by reframing dynamics between the artificial and the natural environment. How do our data-driven methods forviewing the city propagate the human-nature dichotomy, and how can we challenge this framework by rendering virtual multi-species resolutions of the city? The presentation for Doc.Days {EDAR} 2023 will present the structure for the first part of the research that aims to uncover the frictions between human and nonhuman mobility visualization in the city of Lausanne. Two abstractions of the city's flows and their intersections will situate this interscalar research:
  1) the ecological network consisting of biological corridors connecting biodiversity reservoirs and protected habitats on the city's periphery.
2) the human mobility network consisting of major infrastructure connecting public space.
Questions regarding the data-collecting methods and sources that informed the elaboration of the ecological network map of Lausanne will be discussed.

Marcela Delgado holds a Master of Architecture from Harvard's Graduate School of Design and a Bachelor of Arts and Science from Stanford University. Marcela previously taught at the National Autonomous University of Mexico and is currently in her second year as a doctoral assistant in the Media x Design Lab at EPFL.
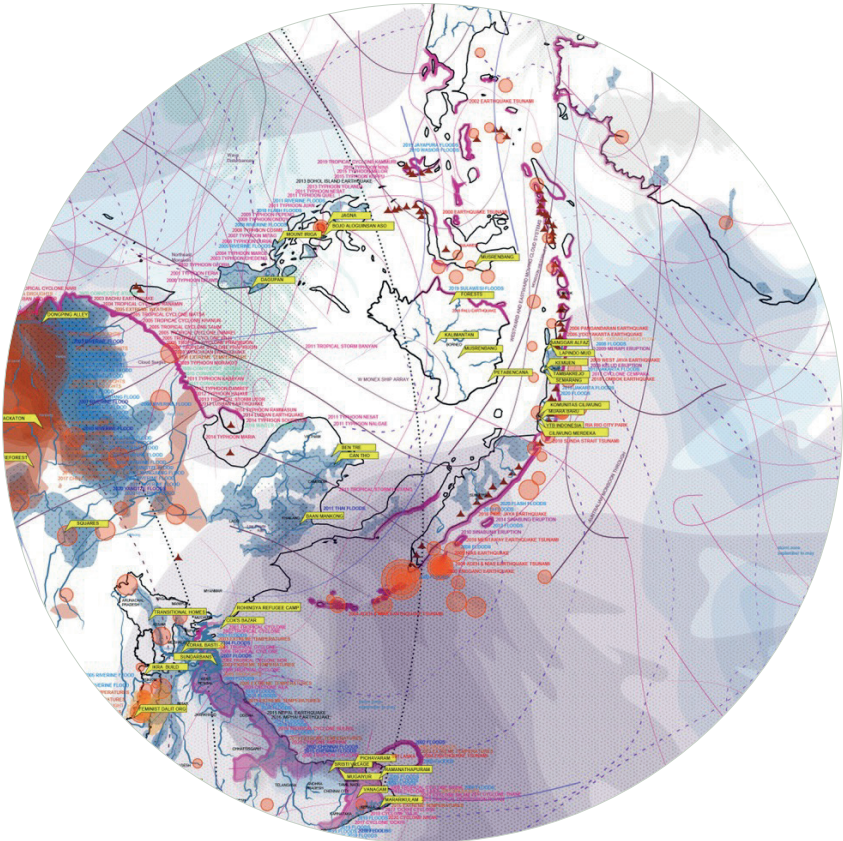
Caption: Zoom on the Atlas of Emergency.
The main objective of the Atlas is to recompose events, processes, and initiatives that attempt to reimagine other ways of responding to the state of emergency.

Estefania Mompean Botias
(ALICE: Atelier de la Conception de l'Espace)
Architectures of Emergency. Sentinel operations for a rapidly
changing environment.

The declaration of an emergency is given by various protocols that
respond to a series of interventions driven by an environmental
urgency (Anderson 2017), designed by global networks of experts
that mobilize advertising modes of economic development in the
face of environmental collapse (Goh 2021). This research proposes a
different imaginary of the Emergency. This reflection aims to resignify
the Emergency from the embodied experiences of the disruptive
events we live, opening the discussion on the frictions between
a normative world based on human security and the modalities of
militant movements dedicated to redressing social, environmental,
and economic inequalities (Whyte 2018). In this sense, we develop
the idea of 'sentinel modes of care' that reflect the affective
scaffolding of life-related to the environment and potential
catastrophe (Wright, Plahe, and Jack 2022). A state of constant
alertness characterizes 'sentinel care' within a more-than-human
register of the relationship and potentialities of the territory.
In this way, the presentation aims to position itself on emergency
protocols while exploring other imaginaries and their impact on
spatial practices.

Estefania Mompean Botias currently pursues her Ph.D. at ALICE
laboratory at EPFL (2021-2025). Her research explores the Emergency
conditions, the study of their ambivalences, examining the new
connotations of regulation that the Emergency States are acquiring,
and identifying how architecture and urban studies respond to these
situations. Before that, she has worked in Paris and New York,
developing a conceptual vision for the Sensual City Studio, actively
participating in international urban projects, architecture design,
publications, and installations.

Caption: Rapanui House

Chloé Joly-Pottuz

(FAR: Laboratory of Construction and Architecture)

How do the limitations and potential in the use of a building material impact the
architectural production of a place? The case of wood in Rapa Nui

As a first-year doctoral student, the presentation I'm proposing for Doc.Days will introduce my research question and outline my first intentions for the research plan to be submitted in September 2023. The proposed presentation will first state my research question: How do the limitations and potential in the use of a building material impact the architectural production of a place? The case of wood in Rapa Nui. After theoretically framing the subject, its current state of research will be briefly presented. Objectives and methods will finally detail the envisioned research plan.

This presentation will be a relevant opportunity for my research since it will allow me to present my first intentions and receive insightful feedback from discussion with a broad community of professors and fellow doctoral students.

The purpose of this research is to assess the limitations and potential of a sociotechnical context within a defined ecosystem and demonstrate how they impact its architectural production.As a geographically isolated place depending from Chile's exportations, and a limited ecosystem where resources are scarce and not always regulated by public policies, Rapa Nui makes an ideal case-study for understanding the inherent limitations and potential of a territory to make a shift in resources generation and use regarding its architectural production. This case-study allows the development of a methodology to be applied to other isolated territories. The chosen case-study embodies an example of a geographically isolated territory developing on very limited space and with a high touristic attractiveness.

My name is **Chloé Joly-Pottuz** and I graduated with a Master of Science in Architecture at EPFL in 2018. After working as a scientific assistant at EPFL, I joined a big office in Lausanne as an architect until summer 2022. Since September 2022, I am a doctoral student at EDAR, EPFL, under the co-supervision of Pr. Paolo Tombesi and Pr. Nicola Braghieri.

Photograph by Maxime Guyon for DeeWee Label.

Tanguy Auffret Postel
(TEXAS: Theory and Experience Architecture Studio)

Airtight — Spacetight
Influence of airtightness on the conceptual approach to space at
the end of the 20th century

The release of the Club of Rome's report "The limits to growth" in
1972, followed by the oil crisis of 1973, created a paradigm shift
in the research for a well-tempered environment in architecture.
Even though subjects like insulation and vapor control were known
issues well before, their importance grew as focus shifted from
energy distribution to energy preservation.
The pioneers of passive architecture in Germany set the principles
for an architecture that focused on envelope efficiency made possible
by high performance insulation and
airtightness. The energetic and political context, coupled with
the increasing regulatory obligations in Europe and the widespread
availability of new synthesized materials, pushed manufacturers to
develop and distribute technical devices that ensured airtightness:
wind barriers, adhesive
strips, sealing foam, compression windows, retractable threshold
… all those devices were aimed at producing a perfect distinction
between inside and outside. In doing so, they opposed more than half
a century of modernist tradition that sought to increase spatial
fluidity.
Did this new material context impact the concept of architectural
space ? Can we find in the architectural production of that time,
clues about this new regime ?

Tanguy Auffret Postel, is an architect. He lives and works in Lausanne
where he founded the office M - AP architects. He is currently
pursuing a doctoral research within TEXAS Lab under the direction
of Professor Éric Lapierre.

Ankita Singhvi
(HERUS: Laboratory for Human-Environment Relations in Urban Systems)
Questioning obsolescence: When does a dwelling reach the end of its life?

Buildings are demolished when they are considered obsolete, in other words, when they have reached the end of their lifespan. Demolition leads to waste; in Europe, construction and demolition waste accounts for approximately 25-30% of the total waste generated, and rubble produced during the construction and demolition of buildings accounts for 12% of total waste in Europe. In the face of climate change, there is a need for rethinking the management of resources. Circular economy advocates for lengthening the lifespan of products, infrastructure and buildings in order to reduce the creation of waste and associated environmental impacts. However, determining (and lengthening) the lifespan of a building is not self-evident, it extends far beyond the material's lifetime, into factors such as economic utility, functionality, cultural significance, sentimental value and political weight. Circular economy research can benefit from a deeper discussion of what constitutes the 'end of life' for complex objects such as buildings, and in particular residential buildings. With cities racing to address their housing crises, there is an urgency to understand how dwellings can meet their inhabitants' needs for as long as possible, and what finally leads to the obsolescence. Therefore, I propose the question: When does a dwelling reach the end of its life? I will present theory on the topic of 'obsolescence' in buildings, as a diving board for the discussion. My objective during Doc.days is to find others who are knowledgeable or interested in the topic of circular economy for the build environment, or the topic of housing in Geneva. Both would contribute directly to my PhD research.

Ankita Singhvi is a PhD candidate at the HERUS Lab, EPFL. Her research examines the role of circular economy in urban and territorial transitions towards sustainability. She received her BSc in Architecture and MSc in Industrial Ecology from TU Delft.
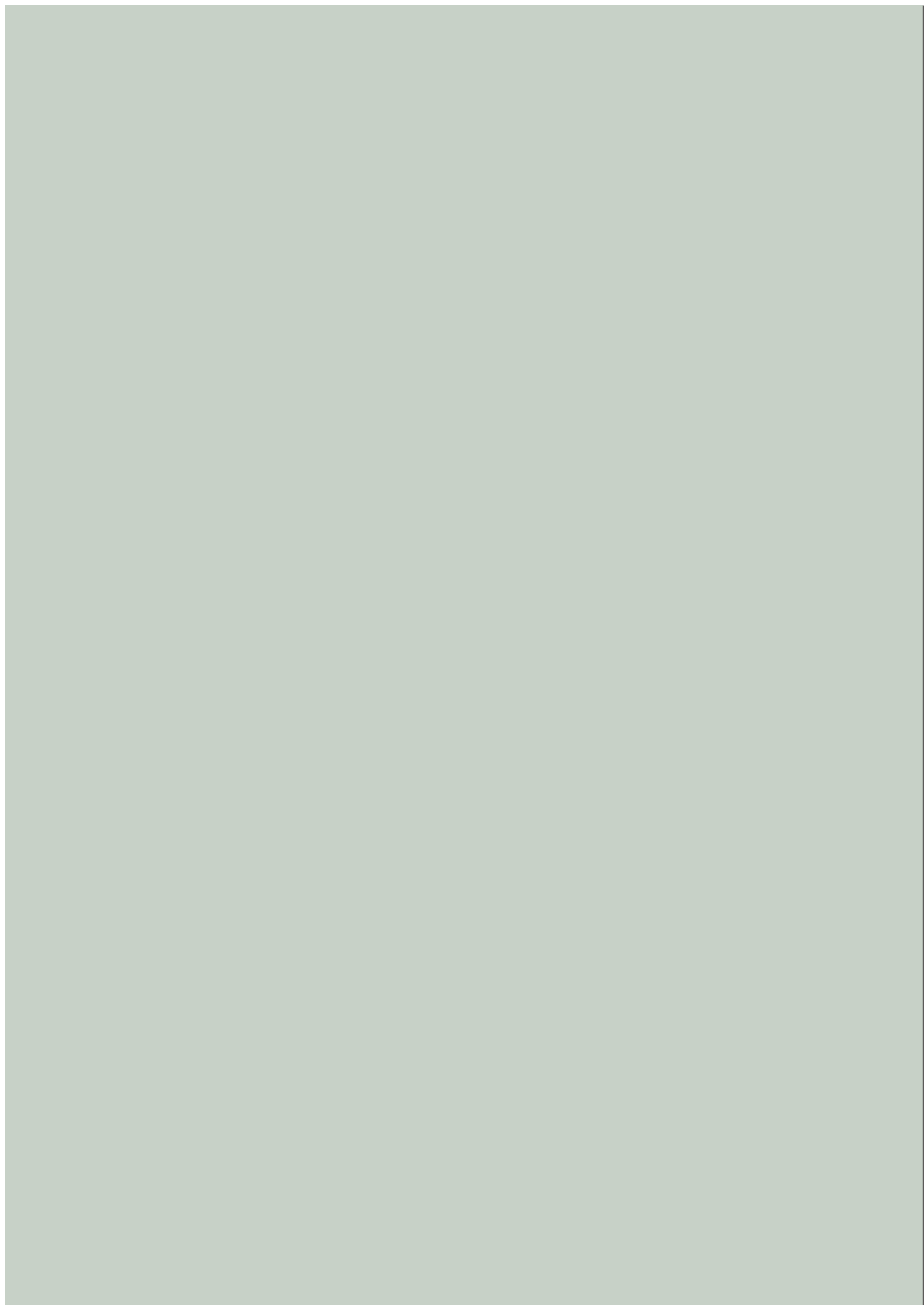
'ON METHODS'
POSTDOCS
BIOS

André Patrão | Postdoctoral Fellow at Yale University
(Former ACHT, Supervisor Christophe Van Gerrewey)

Method in the Making: Process, Product, and the Personal during a PhD

Across the variety of thesis topics found at doctoral schools, one concern seems to secretly underlie them all, often more dominantly and distressingly that the research topic itself: methodology. What should I do, and why? What should I read, and how? What should I write, and when? These questions raise frustrating and even paralyzing obstacles, yet confronting them feels like a time-consuming deviation from what really matters. After all, method is commonly taken as a tool employed to produce a thesis, not as one of its outcomes.

This talk reflects on method as an inherent and indispensable process, rather than a presupposition, of doctoral research. In the moment of scholarly coming-of-age that is a PhD, research methods do not offer themselves as predetermined models to be found and copied, but remain constantly under questions and in the making. The deeply personal dimension of this endeavor and its implications are both explained and exemplified in a fascinating story, of the time philosopher Ludwig Wittgenstein designed the Kundmanngasse House (1927).

André Patrão is a Postdoctoral Fellow at the Yale School of Architecture, funded by the Swiss National Science Foundation. After studying architecture, urban design, and philosophy, he completed his doctoral thesis Architecture / Philosophy: how, why, and what the questions seek in three case-studies from the late 20th century in 2020, under the supervision of Professor Christophe van Gerrewey at the EPFL's Lab of Architecture, Criticism, History, and Theory (ACHT). His current research explores historically significant moments of exchange between architects and philosophers, focusing on their heyday in the mid and late 20th century, its precedents, and its consequences today.

Valentin Bourdon | Habitat Research Center EPFL
(Former LCC, Supervisor Luca Ortelli)

From Objects to Methods

Doctoral research is a framework shared by more than 2400 people at EPFL. It involves certain rules, but also specificities assumed by each doctoral school. Within the same doctoral school, there are probably also different methodologies that apply, coexist, diverge or even oppose each other. Each research may in its own way question certain aspects of a so-called orthodox methodology - if still recognized as such - but nevertheless participates in the prolongation, or even the extension, of common research cultures that continue to shape the plural identities of EPFL's doctoral schools. We will identify here some originalities that could confirm both the legitimacy of the sideways step in research and that of its rules of art.

Valentin Bourdon is an architect Dr EPFL, postdoctoral researcher and teaching assistant in theory and criticism of the project at the LCC Laboratory of the École Polytechnique Fédérale de Lausanne. Of French nationality, he went to Switzerland to do his doctorate there, after six years of practice on collective housing projects and urban projects within the Parisian office MGAU Michel Guthmann Architecture Urbanisme. In September 2020, he defended his doctoral thesis entitled "The architectural forms of the Common", carried out since January 2017 under the supervision of Professor Luca Ortelli. His areas of research relate to the understanding of recent developments in housing architecture, major urban trajectories and project tools. The doctoral research that he has just completed consists of the study of architectural principles attached to the theme of habitat, which the topicality of the notion of "common" invites to bring together in the same perspective: that of understanding the relationship contemporary between city and housing. So many elements that can be used to shed light on and understand the issues raised by the health crisis that we are encountering.
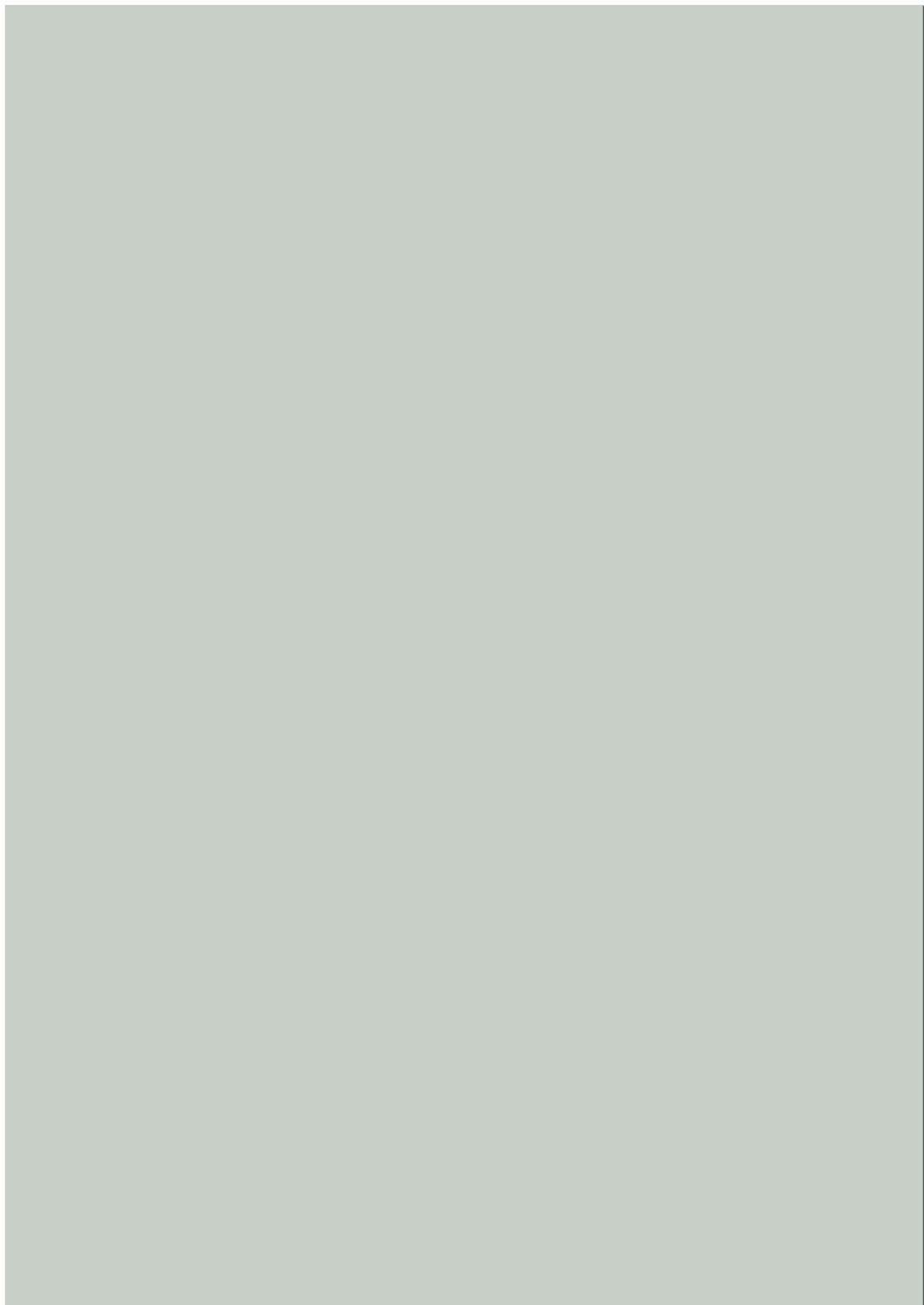
DISCUSSANTS
BIOS

Corentin Fivet (EPFL- Lab SXL)

Corentin's research and teaching are driven by the need for more sustainable building systems. Merging architecture, structural design, and construction science, his work explores new circular implementations of load-bearing systems and new design methods for resource-efficient structural typologies.
Assistant Professor @ EPFL since 2016 | Postdoctoral researcher & lecturer @ MIT 2014-2016 | PhD in Engineering Sciences @ UCLouvain 2009-2013 | Architecture internship @ Charles Vandenhove, Belgium 2008-2009 | Bachelor and Master in Architectural Engineering @ UCLouvain 2003-2008.

Gabriele Manoli (EPFL Lab URBES)

Gabriele Manoli received a PhD in Civil and Environmental Engineering Sciences in 2014 from the University of Padova (Italy). From 2014 to 2016, he was a Postdoctoral Associate at the Nicholas School of the Environment at Duke University (USA) and, from 2016 to 2019, he was a Postdoctoral Fellow at the Institute of Environmental Engineering at ETH Zurich (Switzerland). In 2019 he joined University College London (UK) as a lecturer in Environmental Engineering and since September 2022 he is a Tenure-Track Assistant Professor at EPFL where he leads the Laboratory of Urban and Environmental Systems (URBES). His research focuses on soil-plant-atmosphere processes in natural and built environments, urban climate, and the structure and dynamics of cities.

Stefana Parascho (EPFL-Lab CRCL)

Stefana Parascho is a researcher, architect, and educator whose work lies at the intersection of architecture, digital fabrication and computational design. She is currently an Assistant Professor at EPFL where she founded the Lab for Creative Computation (CRCL)Through her research, she has explored multi-robotic fabrication methods and their relationship to architectural design. Stefana investigated computational design techniques ranging from agent-based systems to sequential design and optimisation methods. Her goal is to strengthen the connection between design, structure, and fabrication, and boost the interdisciplinary nature of architecture through the development of accessible computational tools and robotic fabrication methods.

Before joining EPFL, Stefana was an Assistant Professor at Princeton University, where she led the CREATE Lab Princeton. She completed her doctorate in 2019 at ETH Zurich, Gramazio Kohler Research. Previously, she received her Diploma in Architectural Engineering from the University of Stuttgart and worked with DesignToProduction Stuttgart and Knippers Helbig Advanced Engineering.

Albena Yaneva (MANCHESTER UNI)

Albena Yaneva is Professor of Architectural Theory and Director of the Manchester Architecture Research Group (MARG) at the Manchester Urban Institute. She holds a DEA from Ecole des Hautes Etudes en Sciences Sociales and a PhD from Ecole Nationale Supérieure des Mines de Paris (2001). She has been Visiting Professor at Princeton School of Architecture (2013), Parsons, New School (2015) and Politecnico di Turino (2018). She held the prestigious Lise Meitner Visiting Chair in Architecture at the University of Lund, Sweden (2017-2019).

Her research is intrinsically transdisciplinary and crosses the boundaries of science studies, cognitive anthropology, architectural theory and political philosophy. She is the author of seven monographs: The Making of a Building (Peter Lang 2009), Made by the OMA: An Ethnography of Design (010 Publishers 2009), Mapping Controversies in Architecture (Routledge 2012), Five Ways to Make Architecture Political. An Introduction to the Politics of Design Practice (Bloomsbury 2017), Crafting History: Archiving and the Quest for Architectural Legacy (Cornell University Press 2020), Latour for Architects (Routledge 2022), Architecture After Covid (Bloomsbury 2023). She co-authored The New Architecture of Science: Learning from Graphene (World Scientific Publishing 2020) with the Nobel Laureate in Physics Sir Kostya S. Novoselov. She is also the editor of What is Cosmopolitical Design? (Routledge 2015, with Alejandro Zaera-Polo).

Her work has been translated into German, Italian, Spanish, French, Portuguese, Thai, Polish, Turkish and Japanese. Yaneva has delivered more than 147 invited lectures at prestigious universities including in Argentina, Australia, Austria, Belgium, Bulgaria, Canada, China, Cyprus, Denmark, Finland, France, Germany, Indonesia, Irland, Italy, Japan, Lithuania, Macedonia, Malaysa, Netherlands, Norway, Poland, Portugal, Russia, Singapore, Spain, Sweden, Switzerland, and the USA. 42 of these were keynote addresses at major conferences. She is the recipient of the RIBA President's award for outstanding university-based research (2010).