

- - - UPDATED VERSION - - - 05.02.2024

Entwerfen 2 (Bachelor)

SS 2024

Institut für Gestaltung / Konstruktion und Gestaltung - i.sd Structure and Design

Teaching Language:

German & English

Course Instructors:

Lara Yegenoglu (i.sd / VILAA / AA / BYAK)

Johannes Schlusche (PhD @ i.sd)

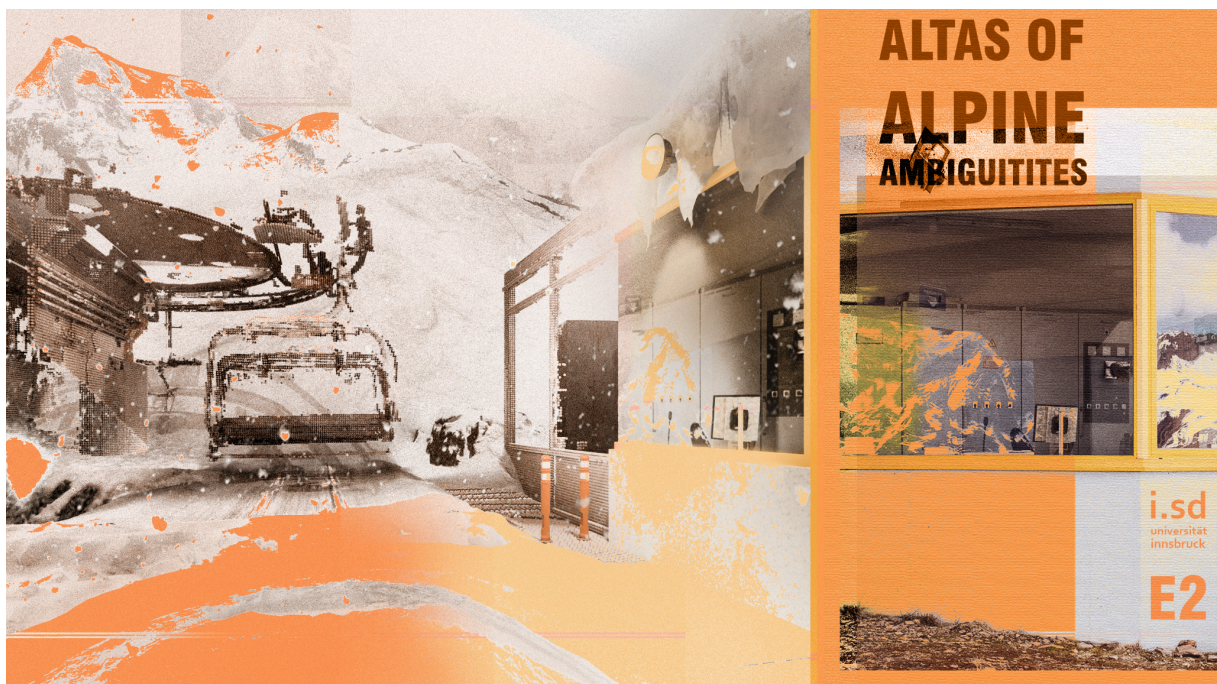
Tutorials:

Wednesday 10:00 - 18:00

Atlas of Alpine Ambiguities

Decoding Seasonal Dichotomies in Kühtai

From Pixels to Peaks: Unveiling the Mysteries of Seasonal Change in Kühtai's Orchestrated Landscape through In-Depth Volumetric Analysis and the Animation of Alpine Scenarios.



BIOS:



Lara Yegenoglu is a director at VILAA, an architectural practice specialising in contemporary design solutions for a given cultural context and the individual experience of the built environment. The practice has developed an international portfolio covering residential, cultural, and public realm interventions. Throughout her architectural discourse Lara worked on projects of various scales and eventually was engaged in the restoration of Battersea Power Station with WilkinsonEyre. She has taught at several institutions in the UK and Germany including the Bartlett (UCL), IU and the AA School of Architecture in London, where she is a studio master of INTER14.



Johannes Schlusche studied architecture at the Faculty of Innsbruck and graduated with his master thesis on ML-assisted design workflows at i.sd. He joined the robotic research lab in 2022 and has a pre-doc position in the SFB Computational Design at i.sd. Within his research, he was part of a multidisciplinary Big Data project at Media Lab Matadero, Madrid, Spain; led workshops at the University of Innsbruck, Austria; TU Graz, Austria; and at the Cluster of Excellence Integrative Computational Design and Construction for Architecture (IntCDC), University of Stuttgart, Germany, which primarily focused on the interface between interactive machine learning design applications and robotic fabrication; and also was part of a video installation for the Venice Biennale 2023, Italy. Johannes is a Computational Designer and collaborated with the architecture firm SOMA for the Tallinn Architecture Biennale 2019, Estonia, where a video presentation and 1:1 installation were exhibited at the Estonian Museum of Architecture over several months.

ABSTRACT:

The E2 Design Studio focuses on the Tyrolean Alpine region around Kühtai, exploring its socio-environmental complexities and dichotomies. This area faces challenges such as seasonal tourism, climate change, landscape appropriation, large-scale green energy projects, and the transplantation of alpine high moors.

The studio's primary goal is to develop a series of speculative and dynamic architectural interventions by creating staged scenarios and spatial experiences through a narrative and user specific approach.

Throughout systematic site explorations we will collect an atlas of alpine ambiguities illustrating Kühtai's attributes of uniqueness and strangeness. Focusing on three architectural themes, the 'interior', the 'in-between', and the 'exterior', projects will explore the territory's transitory spaces through the lens of its three users: the local, the seasonal worker and the tourist. The transitory spaces will be deconstructed into various spatial properties, such as solids, thresholds and voids to inform the design of volumetric architectonic design proposals. Applying tools of gamification projects will explore volumetric modeling and LOD mapping to curate staged narrative scenarios that tell stories of the area's dichotomies by highlighting various resolutions and level of details.

Students will reconstruct digital scenes of the physical real world to investigate the region's spatial dynamics by documenting movements, densities, sounds, textures, and atmospheres through an analytical approach. This exploration will lead to the conceptualisation of design strategies that are sensitive to the needs of different users. Aiming to respond to Kühtai's cultural, social and environmental complexity, projects will address the region's ongoing challenges such as seasonal vacancy and desertification.

INTRO:

“These complex and often conflicting landscapes are entanglements of places, subjectivities, actions and bodies - migrant, citizen, traveller, (and) resident.” – Ed Wall, Les Paysagistes - expanding, producing, contested fields of landscape; in: AD The Landscapists

They are remote, they are dynamic, they are wild, they are breathtaking. Yet they are endangered, and above all, they are exploited. The Alps, one of Europe's richest natural areas, have transformed into a fragile environment that is shaped by a complex network of social and environmental extremes. Being one of the last strongholds of nature that stretch across one of the largest and highest mountain ranges in the world, the alpine regions face multiple threats such as urbanisation, mass tourism, climate change, and energy production through terraforming, to name just a few.

“The landscape is never inert, people engage with it, re-work it, appropriate it and contest it.”
– Barbara Bender, Landscape: Politics and Perspectives

This semester the E2 studio will investigate the socio-environmental complexities of alpine regions within the context of Kühtai. Known as the highest ski resort in Austria, the small town in the Stubai Alps mainly caters to winter tourism and is the epitome of seasonality par excellence. During the colder months, it attracts many seasonal workers as well as tourists from various nations, cultures, and backgrounds, transforming the area into a temporary leisure circus.

Yet Kühtai's true colours only reveal once the snow line and temperatures are rising and winter comes to an end. Deserted, stalled, and simply surreal. A condition that remains unseen to most visitors but reflects the area's predominant status quo. A proportionately small group of local residents and regional tourists remains during the low season when the area's resorted landscapes start to reveal. As actors, users, and spectators, they are confronted with the challenges and consequences of seasonal existence. However, both public and private sectors of the resort industry strive for more homogenous and year-round tourism patterns, which becomes evident through projects such as the 'Zukunft Kühtai Sellraintal' initiative.

"Landscapes are created by people - through their experience and engagement with the world around them." – Barbara Bender, Landscape: Politics and Perspectives

Unfortunately, the lack of summer tourism isn't the only asset to be worried about. The locals have recently become witnesses of a devastating landscape operation - the disappearance of the Längental. Soon to be flooded and hidden behind a 113 metre wall, the valley's unique biodiversity, freshwater habitats, and precious moors, along with 7 million cubic metres of rock, are being excavated to make space for yet another dam(n) reservoir.

SPECULATIVE SCENARIOS - DESIGN PROPOSAL:

"Sensuality in architecture - physical or illusionary - has emerged from the discovery of simultaneous correlations / the synchronisation of elements in time and space / defined by the single momentary metamorphosis of object with object / man with man / boundary with boundary / the conflict of kinetic versus static / cold versus hot / dark versus light / perception versus utilisation / performance versus expectation / touch versus vision / solid versus void / sound versus silence." - Raimund Abraham, [UN]BUILT

Given all these extremes, both socially and environmentally, what could the future of Kühtai look like through the lens of its users?

As Kühtai takes on the task of countering the total commitment of winter sports and winter tourism, our E2 studio will take this opportunity to develop an atlas of alpine ambiguities and speculate on possible design proposals of transformation and adaptation for existing scenarios. Exploring the territory's transitory spaces through the lens of its three users, a series of architectural interventions capturing the interior, the exterior, and the in-between will start to activate and cultivate the area throughout its various seasons. Following a narrative approach, projects will start to reveal through a set of animated scenes creating spatial experiences in orchestrated environments. A look at tools of gamification serves this ambiguous process and guides our project's design methodology: We adopt analytical approaches by using volumetric modeling, LOD mapping, and staged narrative scenarios to highlight different resolutions and details of the area's dichotomies.

DESIGN METHODOLOGY:

The core of the design methodology is built upon a 3D-scan-atlas derived from lidar or photogrammetry devices containing high-resolution point cloud datasets covering entire scenes within the Kühtai region. During the field trip, efforts will be made to gather firsthand data that enriches the atlas. This includes a variety of media such as photographs, videos, sketches, sound recordings, and interviews with a specific focus on "Kühtai-artifacts."

The overarching objective of the design methodology is to harness the potential of data to develop multi-layered volumetric design strategies following a narrative approach. To overcome the limitations of raw point cloud data, we mix them by incorporating traditional architectural design tools (modeling, diagrams, and drawings) and diverse media forms, such as animations, videos, projections, or interactive interfaces.

In detail, these cinematographic strategies are based on the dynamic animation and transformation of the point clouds and their subsequent tectonizations, termed "Point Cloud Tectonics." Point clouds possess unique potential as they finely detail design objects while maintaining visual transparency. To unfold the visual and spatial qualities of the encapsulated data information (appearance, distribution, density, vagueness, and adaptiveness), we use gamification tools to gain a new perspective on architectural speculations on a global and local scale. Gamification helps us to analyze the real world through immersive interaction within the reconstructed and captured scenes, for example, through viewing perspectives such as first-person and third-person controls. In our modular process, by incorporating volumetric editing, it is possible to impose a specific level of detail (LOD) on certain areas by covering the point cloud tectonization with different resolutions and with even more detail through the help of game asset libraries and 3D modeling. Through atmospheric superimposition effects, such as light, shadow, sound, and noise, animated scenes let us dramaturgically explore speculative scenarios of interior, exterior, and the in-between.

This trained repertoire helps us to develop design investigations in the format of an atlas to obtain conclusions for the formulation of architectural interventions that fit the context of the Alpine region of Kühtai and respond to a vibrant impact of the local built environment, landscape, and culture.

FORMAT / DESIGN DELIVERABLES:

The studio project challenges students to engage in a dynamic exploration of architectural and artistic expression and volumetric design thinking by creating 3 existing scenarios followed by 3 design proposals set within the exterior, the interior and the in-between. The 3 existing scenarios will be presented through reconstructed 3-dimensional scenes in form of drawings and will be supported by 3 analysis maps. The 3 design proposals will transform the existing scenarios into animated and interactive scenes in form of animation and physical models which will be supported by 3 concept drawings.

By synthesising traditional and modern techniques, students will construct a series of drawings that integrate line drawings, renderings, physical models, and mixed-media elements. Required techniques for this are line drawings consisting of maps, sections, floor plans, and explanatory diagrams; renderings of three-dimensional volumetric designs; physical model building techniques such as laser cutting, casting, and 3D printing.

Project Scope and Deliverables:

1. **Existing Scenarios - Mapping:**

- 1x Exterior
- 1x Interior
- 1x In-Between

Create 3 analysis maps incorporating line drawings, digital modelling and explanatory diagrams. Explore a chosen location or concept through intricate visual representation.

2. **Reconstructed Scenarios - Drawings:**

- 1x Exterior
- 1x Interior
- 1x In-Between

Reconstruct the 3 chosen scenarios through 3-dimensional modelling and represent their architectural and atmospheric qualities through 3 drawings.

3. **Design Proposal - Concept Drawings:**

- 1x Exterior
- 1x Interior
- 1x In-Between

Develop 3 drawings that visually capture an abstract or symbolic conceptual idea. Experiment with artistic elements to evoke and communicate the chosen concept.

4. **Design Proposal - Scenarios:**

- 1x Exterior
- 1x Interior
- 1x In-Between

Reconstruct the chosen scenarios through 3-dimensional modelling and represent their architectural and atmospheric qualities through 3 animations.

5. **Design Proposal - Physical Models:**

- 1x Exterior
- 1x Interior
- 1x In-Between

Reconstruct the 3 chosen scenarios through 3-dimensional modelling and represent their spatial and material qualities through physical model making

REFERENCES:

Books:

Abraham, Raimund, 2001, *Elementare Architektur - Architectonics*, Verlag Anton Pustet, Salzburg.

Bridle, James, 2022, *Ways of Being - Beyond Human Intelligence*, Penguin Books, London.

Bridle, James, 2023, *New Dark Age - Technology and the End of the Future*, Verso Books, London.

Bätzing, Werner, 2016, *Zwischen Wildnis und Freizeitpark*, Rotpunktverlag, Zürich.

Gage, Mark Foster, 2011, *Aesthetic Theory*, W.W. Norton & Company Ltd., London.

Giro, Christophe, 2022, *Robotic Landscapes - Designing the Unfinished*, Park Books, Zürich.

Grigoriadis, Kostas, 2016, *Mixed Matters - A Multi-Material Design Compendium*, jovis Verlag, Berlin.

Kissling, Thomas, 2021, *Solid, Fluid, Biotic - Changing Alpine Landscapes*, Lars Müller Publishers, Zürich.

Latour, Bruno, 2019, *Das terrestrische Manifest*, Suhrkamp, Berlin.

Lefebvre, Henri, 1992, *The Production of Space*, Wiley-Blackwell, Hoboken.

Morton, Timothy, 2018, *Being Ecological*, Penguin Books, London.

Reiser + Umemoto, 2006, *Atlas of Novel Tectonics*, Princeton Architectural Press, New York.

Rübel, D, Wagner, M, Wolff, V 2005, *Materialästhetik: Quellentexte zu Kunst, Design und Architektur*, Dietrich Reimer Verlag GmbH, Berlin.

Wall, E (ed.) 2020, *Special Issue: The Landscapists: Redefining Landscape Relations*, Wiley.

Websites:

<http://www.italianlimes.net/project.html>

https://www.cabinetmagazine.org/issues/15/weyland_niehues.php

<https://www.cabinetmagazine.org/issues/27/kastner.php>

<https://journals.openedition.org/rga/>

<https://cargocollective.com/fictionfactory>

<https://onehundredprojects.com/>

<https://cntxtstudio.com/>

<https://a-a-l-p.com/>

<https://girot.arch.ethz.ch/>

Names to search online:

Patrick Geddes / Edward Burzynsky / Christophe Giro

Films:

Alpenland, Ein Film von Robert Schabus, A 2022.

[Edward Burzynsky: Manufactured landscapes](#)

[Edward Burzynsky presents: Nature transformed through water at Arup](#)

[Powers of Ten™ \(1977\)](#)

[Bergauf-Bergab: Wie intensiv darf der Mensch in die Natur eingreifen? | ARD Mediathek](#)

[Stopp Ausbau Kraftwerk Kaunertal](#)

[Klimarettung aus den Sümpfen | ARTE Re:](#)

[Welchen Beitrag können Moore als Klimarettung und Co2-Speicher leisten? | Gut zu wissen | BR](#)

[Pumpspeicher statt Tal? Warum der Ausbau vom Kraftwerk Kaunertal nicht "grün" ist / Platzertal Tirol](#)

[Kraftwerk Kühtal: Das Längental wird zum Speichersee | Bergauf-Bergab | Doku | Berge | BR |](#)

[Energie](#)

SCHEDULE: Dates and times are subject to change!

MAR	1	6/03/2024	wed	COURSE INTRO, 1st TASK, WORKSHOP 1. Workshop LOD + Mapping 2. Workshop 3D Modeling (Rhino+ Illustrator+Photoshop+Houdini) -> BRING YOUR LAPTOPS! + start w mappings (2D) + modeling (3D)	Intros, agenda, teams & workshop
	2	13/03/2024	wed	EXCURSION KÜHTAI Atlas: Capture Kühtai Scenarios + Landscape + Sounds + Interviews -> BRING YOUR SMARTPHONES, CAMERAS, DRONES start w atlas + 3 reconstructed scenario drawings + 3 mappings	Field trip < Start phygital Atlas < Start 3 Drawings + 3 Mappings
	3	20/03/2024	wed	PROGRESS TUTORIAL & WORKSHOP presentation Atlas of Kühtais' strangeness WIP reconstructed 3 scenario drawings + 3 mappings 3. Workshop Design Atmospheric Augmentation (Blender)	Presentation & workshop < End phygital Atlas
	4	27/03/2024	wed	Holiday	
APR	5	03/04/2024	wed	Holiday	
	6	10/04/2024	wed	PIN UP WEEK 01 with Prof. Kristina Schinegger + Prof. Stefan Rutzinger WIP PRESENTATION phygital Atlas + 3 drawings + 3 mappings 4. Workshop Design Tools	Presentation & workshop
	7	17/04/2024	wed	PRESENTATION presentation 3 reconstructed scenario drawings + 3 mappings	Tutorials < End 3 Drawings + 3 Mappings > Start DESIGN
	8	24/04/2024	wed	PROGRESS TUTORIAL WIP design concept	Tutorials
MAY	9	01/05/2024	wed	Holiday	
	10	08/05/2024	wed	PRESENTATION presentation design concept 5. Workshop Design Visualization (Interface + Animation)	Tutorials & workshop
	11	15/05/2024	wed	PROGRESS TUTORIAL WIP design scenarios	Tutorials
	12	22/05/2024	wed	MID-REVIEW with Prof. Kristina Schinegger + Prof. Stefan Rutzinger + invited guests PRESENTATION phygital Atlas + 3 drawings + 3 mappings + design concept	Presentation
	13	29/05/2024	wed	PROGRESS TUTORIAL WIP design scenarios	Tutorials
JUN	14	05/06/2024	wed	PIN UP WEEK 02 with Prof. Kristina Schinegger + Prof. Stefan Rutzinger PRESENTATION WIP design concept + scenarios	Presentation
	15	12/06/2024	wed	PROGRESS TUTORIAL WIP design scenarios & model	Tutorials
	16	19/06/2024	wed	PROGRESS TUTORIAL WIP design scenarios & model	Tutorials < End DESIGN
	17	26/06/2024	wed	FINAL-REVIEW with Prof. Kristina Schinegger + Prof. Stefan Rutzinger + invited guests	Presentation

