

# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



## Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners ([Examencommissie-BK@tudelft.nl](mailto:Examencommissie-BK@tudelft.nl)), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Niek van der Gugten
Student number	4212851

Studio		
Name / Theme	Borders and territories	
Main mentor	Filip Geerts Stefano Milani	Architecture
Second mentor	Mauro Parravicini	building engineering
Argumentation of choice of the studio	The large scale approach and focus on architecture in relationship to the environmental context of the studio appealed to me. Furthermore, the structure of the studio seemed open ended, with room for different approaches of the design project.	

Graduation project	
Title of the graduation project	Robotic wilderness
Goal	
Location:	Karst plateau, near Trieste, Italy
The posed problem,	Karst areas are among the world's most diverse, fascinating, resource-rich, yet problematic and fragile environments, characterized by different geomorphological features, like dolines (sinkholes), karst valleys (polje), blind valleys and caves. The thin soil layer, the rocky surface, lack of surface water and the harsh climate make the karst plateau an environment difficult and labor intensive to cultivate and maintain, while also fragile and susceptible to effects of human activities, such as deforestation, soil exploitation and erosion and groundwater pollution. These have already impacted the environment of the karst plateau in Italy and Slovenia, most notably the erosion and exploitation of soil. Without maintaining the

	degrading landscape, specific karst features, and the ecosystems they support, including humans, are threatened with further deterioration. With previous techniques such as dry stone wall building and pastini's becoming too labor intensive, new techniques need to be explored to keep nature on the karst, both human as well as inhuman nature, sustainable.
research question	How can we maintain the fragile karst landscape with infrastructural interventions without causing further deterioration?
design assignment in which these result.	creating (non) static infrastructure that can manipulate the terrain, forming a more resilient and sustainable landscape. Exploring the possibility of landscape robotics, and how they would occupy a place in nature.
<b>Process</b>	
<b>Method description</b>	
<p>Trieste and its territory is analyzed through collective mapping, and further individual mapping and analyses more focused on the topic of interest; the karst plateau. The essay explores our relationship with nature, and creates a theoretical framework for the project. The design has begun with exploring possibilities through sketches and drawings, and critical reflection thereof. Furthermore, the Modus operandi has helped in starting design from the earlier research. Through 3 weeks of modeling, a start has been made in materializing ideas. After p2, the design will be continued with sketching possibilities and reflecting, both with drawing and modeling. This will be done in collaboration with further research through mapping and literature, focussed on the materiality of the site, and technical possibilities.</p>	

### **Literature and general practical preference**

Cronon, William. (1996) *The Trouble with Wilderness: Or, Getting Back to the Wrong Nature*. *Environmental History*, vol 1, no 1, 1996.

Mumford, L. (1934) *Technics And Civilization*, London: George Routledge and sons

Murdock, E. G. (2019). *Nature Where You're Not: Rethinking Environmental Spaces and Racism*. *The Routledge Handbook of Philosophy of the City*, 2020, PDF

Plumwood, V. (1994) *Feminism and the Mastery of Nature*, London/New York: Routledge.

Slataper, S. and Coda, E. (2020) *My Karst and My City and Other Essays*, Toronto: University of Toronto Press.

### **Reflection**

The project researches the relationship between nature and humans to get a better understanding of how to intervene within the landscape. It further investigates the position technology takes in how we think and act on the terrain. The current developments in landscape robotics have created huge opportunities for use to maintain landscapes. the project tries to go beyond just the technical implication of these robots, and ask how they will occupy a place within the landscape, how their role in nature can be perceived and what they should do.