



**Politecnico  
di Torino**

## ***Honors Thesis***

---

**Master's degree Science in Architecture Construction City**

**Abstract**

**THE ENTROPIC FIELD:  
Italian National Repository of Nuclear Waste in Alessandria**

**Tutor/Correlator  
Giovanni Corbellini**

**Candidate  
Hajar Younes**

**July 2025**

---

Nuclear science and technology have prompted remarkable advancements in medicine, electricity production, and other essential industries. However, like many other human endeavors, such activities generate hazardous by-products, particularly, nuclear waste. Due to its relatively long isolation period which ranges from a hundred to thousands of years, nuclear waste poses a challenging issue to tackle. In Italy, a National Repository for very low- and low-level nuclear waste is to be developed by SOGIN; as such, establishing a facility to be operated and controlled for about 350 years. This thesis aims to address the repository not only as a technical infrastructure, but also as a layer of memory subject to reinterpretation over time, through utilizing time as design tool and embracing entropy as an inevitable condition. The proposal targets the instructive memory through an ordered, conserved archive center on one hand and marks the subjective memory by creating a “Third Landscape” that engages with decay, ambiguity and uncertainty on the other hand. By implementing design strategies that exploit the design constraints, the containment barrier becomes a visual obstruction that conceals the undesirable industrial facility, while acting as an elevated vantage point to observe the facility and provide a threshold of transparency. In addition, the barrier, made of the excavated soil from the construction process, forms a circular geometric shape that evokes mystery and attention. This paradoxical perimeter creates the platform for the third landscape, producing entropy by design. In brief, the design of this temporal infrastructure explores how architecture can influence memory without depending on permanence and control. It speculates how a territory that holds what society dismissed might unfold into a landscape of paradoxical encounters - fear and desire, containment and openness, neglect and conservation. Hence, entropy compels the continual re-interpretation of the past, keeping both “memory and forgetting” active, as a necessary living force.

---

