

Events

Il Disegno Virtuale del Reale. PhD UID Summer School 2025

Marcello Balzani

The UID Summer School 2025, themed *Il Disegno Virtuale del Reale*, was conceived as a high-level educational and research experience dedicated to exploring the relationships between representation, technology, and critical interpretation of the built heritage, between symbolism and iconography. The initiative, promoted by the Unione Italiana per il Disegno, took place in Venaria Reale, a city rich in historical and landscape heritage, and in the Drawing TO the Future laboratory of the Politecnico di Torino, a long-established center of innovation applied to the discipline of Drawing.

The title of the Summer School encapsulates a crucial contemporary challenge: to investigate how Drawing –traditionally a tool for understanding and communicating reality– can evolve in a digital and potentially immersive context, while maintaining scientific rigor and a strong capacity for critical interpretation grounded in historical knowledge. In this framework, Venaria Reale offered a complex urban setting where the consolidated city fabric, made up of minor architectures, dialogues with the prestigious presence of the Royal Palace –its buildings and gardens– and with historical and contemporary transformations, while the Polytechnic provided access

to advanced technologies and experiential, experiential teaching methodologies. The goal was not merely to acquire skills but to build critical thinking on the role of Drawing in the virtual representation of reality, through an intensive path intertwining theory, practice, and creativity.

The UID Summer School 2025 unfolded as an intensive program characterized by a dense schedule and a strong interdisciplinary component. Professors from various disciplines and twenty-six

PhD students from fifteen Italian universities and Tokyo University shared a week of collaborative work, alternating between training sessions, field observations, and laboratory experimentation. The choice of Venaria Reale as an operational setting was deliberate: its historical urban layout and contemporary transformations offered an ideal context to reflect on the relationship between permanence and transformation, architecture and landscape, memory and innovation.

Fig. 1. Poster of the event.

UIDSS2025 | 16-20 giugno 2025 | Venaria Reale

Il Disegno Virtuale del Reale

La Summer School proporrà ai partecipanti un'esperienza formativa incentrata sulle diverse forme della rappresentazione dalla scala urbana a quella architettonica, esplorando contenuti e strumenti che garantiscono la giusta affidabilità dei dati, sia statici che dinamici, anche per garantire una perfetta inclusività delle persone fragili.

<p>Lunedì 16</p> <p>14:30 – Registrazione 15:00 16:00 – Saluti istituzionali</p> <p>16:00 18:30 – Il disegno della città e dell'architettura <i>La città che cambia</i> <i>L'informazione che diventa Disegno</i></p>	<p>Martedì 17</p> <p>9.00 13.00 – Attività. Rilievo <i>Analisi congetturale della città</i> 15:00 17:30 – Riflessioni <i>Quali contenuti? Quali strumenti?</i></p> <p>17:30 18:30 – La modellazione digitale della città e dell'architettura <i>Dal rilievo al modello</i> <i>Le sfide dell'interoperabilità</i></p>	<p>Mercoledì 18</p> <p>9.00 13.00 – Attività. BIM <i>Affidabilità dei dati</i> 15:00 17:30 – Riflessioni <i>Quali contenuti? Quali strumenti?</i></p> <p>17:30 18:30 – La realtà virtuale <i>Nuovi strumenti per l'inclusione</i></p>	<p>Giovedì 19</p> <p>9.00 13.00 – Attività. Digital Twin <i>Dati statici e dinamici</i> 15:00 17:30 – Riflessioni <i>Quali contenuti? Quali strumenti?</i></p> <p>17:30 18:30 – Gran Finale <i>Il Disegno del Reale</i></p>	<p>Venerdì 20</p> <p>9.00 13.00 – Attività. Metaverso <i>Una nuova sfida</i> 15:00 17:30 – Applausi Iniziali <i>Esposizione e commenti dei lavori</i></p>
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Comitato Organizzatore | Anna Osello, Matteo Del Giudice, Francesca Maria Ugliotti, Mariapaola Vozzola
Comitato scientifico | Fabrizio Agnello, Marcello Balzani, Carlo Bianchini, Tommaso Empler, Laura Farroni, Francesca Fatta, Vincenza Garofalo, Sandro Parrinello, Cettina Santagati, Alberto Sdegno, Graziano Mario Valenti, Chiara Vernizzi

The program was structured around four thematic directions identified by the conceptual tool known as the Compass:

- *The Consolidated City*, to investigate the identity values of the urban form, starting from the historical Via Maestra (now Via Mensa);
- *The City in Transformation*, to analyze the processes of change and the dynamics of resilience and sustainability in contemporary architecture, with particular attention to the project for the new Cultural Hub;
- *The Architecture of Bricks*, to recall the materiality and constructive tradition of the Master of History, exemplified by the Chapel of St. Hubert designed by Filippo Juvarra;
- *The Architecture of the Seasons*, to explore the infinite spatial dimension of the Palace gardens in relation to the surrounding territory and the distant Alps.

These thematic axes served as starting points for a work of critical interpretation, developed through integrated methodologies combining observation, survey, analysis, representation, and modeling.

Theoretical lectures took place both in Venaria Reale and at the *Drawing TO the Future* laboratory at the Polytechnic of Turin an extensive, well-equipped space that integrates a holographic system capable of nullifying distances by projecting remotely connected lecturers as three-dimensional holograms, alongside digital and analog prototyping technologies essential for active experimentation that turns ideas into tangible forms. Here, PhD students could use tools such as 3D printers, modeling software, and manual materials like clay to give physical shape to their theoretical reflections.

The final goal was clearly stated from the beginning: each group was to

produce a critical interpretation of the assigned theme, synthesized into an artistic work on canvas (60×60 cm), with no limits on materials or techniques. This piece, far from being a mere creative exercise, represented the conclusion of a complex process in which Drawing reaffirmed its role as a tool of knowledge, communication, and innovation. For this reason, the program was not limited to the technological dimension alone: team-building activities—such as a treasure hunt, puzzle, and the *Compass*—were organized to foster collaboration and problem-solving skills. This playful component, embedded within a scientific context, contributed to strengthening group cohesion and developing transversal skills that are essential in contemporary research.

The final presentation took place on the last day in the scenic Chapel of St. Hubert, a setting of extraordinary historical and symbolic value. Here, through structured pitches, the PhD students illustrated their processes and interpretative choices, clearly demonstrating how Drawing acts as a privileged link between the real and the virtual. The artworks were also digitized and integrated into an accessible and inclusive metaverse, showcasing the intent to transcend physical boundaries and open new perspectives for research and education.

The design process of the UID Summer School 2025 adopted an integrated methodological approach, combining direct observation, critical analysis, and technological experimentation. Activities were structured around a precise daily rhythm: mornings were devoted to the city of Venaria Reale, with on-site visits and lectures; afternoons took place in the *Drawing TO the Future* laboratory, equipped for all forms of physical and digital modeling as

well as theoretical integration through physical or holographic interaction.

The tools provided reflected the dual nature of contemporary Drawing: on one side, traditional techniques of representation and manual modeling, such as clay modeling or the use of cardboard, leaves, and threads for critical interpretation; on the other, advanced technologies such as 3D printing, parametric modeling software, and immersive environments for constructing scenarios between the real and virtual. This combination allowed participants to experiment with the continuity between analog and digital, reflecting on Drawing as a mediator between the physical and virtual dimensions.

The method was based on a principle of progressive elaboration: from contextual analysis to the definition of an interpretive concept, culminating in the creation of an artistic canvas designed not only for physical presentation but also for transposition into an inclusive metaverse. This process highlighted how representation is not a neutral act, but rather a cognitive device guiding understanding and communication of the project.

From the outset, the aim of the UID Summer School 2025 was clearly defined: to transform theoretical analysis and practical experimentation into a communicative product capable of synthesizing the complexity of the assigned theme. The twenty-six PhD students were divided into four groups, each dedicated to one of the Compass directions: *The Consolidated City*, *The City in Transformation*, *The Architecture of Bricks*, and *The Architecture of the Seasons*. This organization fostered collaboration, encouraging cross-disciplinary exchange and the construction of a shared vision. Each group developed an interpretative path structured in phases: field

surveys and data collection, critical analysis, concept definition, and graphic synthesis through analog and digital tools. The outcome was conceived not as a simple creative exercise, but as the synthesis of a research process. The canvas served as the meeting point between craftsmanship and technology, between traditional Drawing and new forms of virtual representation.

The concluding presentation took place in the Chapel of St. Hubert, where each group showcased their work through a structured pitch, demonstrating synthesis, argumentation, and communication skills. The artworks displayed in a unified, yet simple exhibition effectively conveyed the plurality of interpretations emerging from interdisciplinary dialogue. In parallel, the paintings were digitized and uploaded into an inclusive metaverse, designed to ensure accessibility and continuity beyond the physical limits of the event.

To close the day, a theatrical performance curated by Teatro 8 of Turin—a company composed of young people on the autism spectrum—offered a reflection on the value of time as an aesthetic and cognitive dimension. This moment added a profound layer of meaning to the experience, emphasizing how art, in all its forms, can serve as a tool for inclusion and universal dialogue, capable of connecting seemingly distant worlds: the real and the virtual, but above all, the inner one.

The UID Summer School 2025, entitled *Il Disegno Virtuale del Reale*, demonstrated how the discipline of Drawing can play a strategic role in the interpretation and communication of the built environment, within a context where the real and virtual intertwine ever more deeply. The experience highlighted the ability of Drawing to evolve without losing its epistemological identity: from an analog representation tool to a cognitive and technological device, capable of engaging with immersive environments such as the metaverse, while also operating through material and digital prototyping processes.

The group-based structure fostered shared knowledge, grounded in interdisciplinary exchange and the experimentation of integrated methodologies. The choice of Venaria Reale as an operational setting and the Drawing TO the Future laboratory as an innovation hub enabled a productive synthesis between historical and technological dimensions, offering PhD students a unique context to reflect on the relationship between permanence and transformation, materiality and virtuality.

The outcome—the creation of canvases and their transposition into an inclusive metaverse—encapsulated the core meaning of the initiative: Drawing is not merely representation, but critical interpretation, cultural mediation, and a tool for scientific communication. The presentation in the Chapel of St. Hubert

Fig. 2. The PHD students and tutors of the UID Summer School 2025 in Venaria Reale with the final canvases.



and the concluding theatrical performance underscored the value of time as both an aesthetic and cognitive dimension, reaffirming the idea that every project, though projected toward the future, remains deeply rooted in memory and history.

In this framework, the UID Summer School 2025 stands as a model of advanced education, capable of integrating research, teaching, and social impact through experimentation that allows young scholars to harness diverse tools to confront the challenges of representation in the digital age. Far from playing a secondary role, Drawing emerges as the protagonist of an innovative process that encompasses not only techniques, but also the cultural and scientific paradigms of change.

Author

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