2. Platforms. International Network among Doctoral Programs in *Design*

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2.1 Weaving Connections

One of the narratives we can tell about the internationalization of the PhD in *Design* at Politecnico di Milano is that of a continuous and interconnected evolution of platforms and meetings, both in-person and virtual. Imagine conferences and events animated by the exchange of ideas, where lasting academic relationships are formed. Over time, these traditional physical platforms have been complemented by digital windows, allowing the PhD program to tell its story and grow in previously unimaginable ways. Through the design of virtual and real platforms, the PhD program has been enriched by increasingly interconnected contributions and people, ready to build a common future. This essay offers a look at the evolution of the international network of the PhD in *Design* at Politecnico di Milano, focusing on the multiple and multimodal platforms that have built, sustain, and will continue to support it in the future.

2.2 Contextual Chronicles

2.2.1 The Origins

The first admission competition for the PhD in *Industrial Design*, established at the *Dipartimento di Programmazione, Progettazione e Produzione Edilizia* 1↘, was announced in 1989 and started in 1990. The first course 2↘ had three doctoral candidates. Today, 34 years later, each new cycle welcomes about 20 new researchers, integrating into a department that has fostered a dynamic and international approach over time. Since 1990, more than 250 doctoral theses have been defended, under the guidance of seven coordinators: Raffaella Crespi 3↘, Tomás Maldonado 4↘, Ezio Manzini 5↘, Francesco Trabucco 6↘, Luca Guerrini 7↘, Paola Bertola 8↘ and Lucia Rampino 9↘.

In 2000, Politecnico di Milano redesigned its doctoral programs and established the University's Doctoral School. At the same time, the doctoral program in *Industrial Design* was renamed to *Disegno Industriale e Comunicazione Visiva*. As described by Silvia Pizzocaro (2003), this was not a simple name change but a crucial shift «from subjective reflection to objective research», from informal training to structured education, and from identifying areas of interest to formulating research questions. In this new direction, thanks to the efforts of Tomás Maldonado, Victor Margolin, Ezio Manzini, and curator Silvia Pizzocaro, Politecnico di Milano organized and hosted the international conference *Design Plus Research in 2000* 10↘. Bringing together a community of 150 scholars 11↘, the conference aimed to discuss and formalize this emerging field of research. Among the many contributions, we can recall *The Role of Design in the Socialisation of Knowledge* by Gui Bonsiepe, *Designerly Ways of Knowing: Design Discipline versus Design Science* by Nigel Cross 12↘, and *Research, Theory and Design Culture: A Knowledge Growing within Complexity* by Silvia Pizzocaro. The first website of the doctoral program, named *Design Plus Research* in honor of the conference 13↘, gathered information about the doctoral program and listed the candidates from the 5th to the 13th cycle at Politecnico di Milano.

1. Proposta di attivazione del Dottorato di Ricerca in *Disegno Industriale*.
Document→

2. Graduatoria del concorso di ammissione al Dottorato di Ricerca in *Disegno Industriale*, V ciclo.
Document→

3. Illustrazione di Raffaella Crespi, realizzata da Ico Migliore.
Document→

4. Ritratto di Tomás Maldonado.
Document→

5. Ezio Manzini.
Document→

6. Ritratto di Francesco Trabucco.
Document→

7. Ritratto di Luca Guerrini.
Document→

8. Ritratto di Paola Bertola.
Document→

9. Ritratto di Lucia Rampino.
Document→

10. Design Plus Research. Prooceedings of Politecnico di Milano Conference.
Document→

In 2002, with the start of the 16th cycle, and just two years after the first name change, due to the expansion of design into new research areas, the doctorate was renamed to *Dottorato in Disegno Industriale e Comunicazione Multimediale* 14↘.

The last name change occurred in 2009, when it became the PhD in *Design* (*Dottorato di Ricerca in Design*) 15↘. Given the expansion of the disciplinary boundaries of design, it was not feasible to continuously update the doctorate's name. Therefore, a synthetic disciplinary indication was chosen, promoting the exploration of the heterogeneous and multidisciplinary nature of design through individual theses (Rampino & Mariani, 2020, p. 10). This process was mirrored by the department, which changed its name from the INDACO Department (Industrial Design, Arts, Communication, and Fashion) to the Department of Design.

Since 2009, the PhD in *Design* program has been coordinated by Francesco Trabucco, who led it until 2015. During these years, supported by a coordination group of five faculty members, Trabucco worked intensively to lay the foundation for the internationalization of the doctorate and to structure its management processes. The idea of internationalizing the doctorate stemmed from the desire to expand its research horizons, creating a global platform for the exchange of ideas (Biamonti, Guerrini & Mariani, 2018, p. 17).

2.2.2 The Framework of the *Milano PhD Design Festival*

To create solid international relationships, it was not enough to establish academic partnerships. These relationships needed to be made more accessible and visible to all individuals orbiting around the PhD program: professors, doctoral students, researchers, and fellows.

A crucial step was taken in 2010 with the establishment of the first *Milano PhD Design Festival* «offering to the large Politecnico Design community an *in house* occasion to gain knowledge and nurture debate» (Rampino & Mariani, 2020, p. 10). Initially conceived as a public celebration of doctoral thesis defenses, the event soon became a platform for knowledge sharing, offering researchers from around the world the opportunity to present their work, discuss innovative ideas, and establish new collaborations. External professors present as

speakers for individual thesis defenses were invited to give a brief lecture in the Castiglioni classroom, open to the entire festival community.

The *Milano PhD Design Festival* also played a crucial role in realizing the research network of the PhD in *Design*. This event turned the abstract idea of international collaboration into a tangible reality, creating an environment centered on dialogue and the exchange of ideas. Thanks to the work of Biamonti, and Trabucco, Guerrini, and Bertola as coordinators, the festival attracted numerous international academics, consolidating the reputation of Politecnico.

From 2010 to 2020, the *Milano PhD Design Festival* celebrated the multidisciplinary, diverse, and widespread nature of design, contributing to the exploration and deepening of the themes addressed in the theses. The 2012 edition took place over two weeks, from March 15th to 29th. The program included eight daily sessions dedicated to thesis defenses, enriched by lectures from external reviewers. Among the many contributions from international guests 16↘, we mention that of Tuuli Mattelmäki from Aalto University 17↘ *What Happened to Empathic Design*. From 2013 to 2018, the *PhD Design Festival* welcomed more than 50 international guests. In 2016 18↘, Francesco Trabucco 19↘ opened the ceremony with a lectio magistralis titled *The Practice of Design*. In these years, the establishment of a series of Open Seminars during the *Milano PhD Design Festival* week involved scholars in design with different backgrounds, stories, and experiences. For example, the 2018 edition, inaugurated by a seminar dedicated to the theme of uncertainty 20↘, was curated by students enrolled in the second year of the PhD, belonging to the 32nd cycle. The seminar explored the role of design research in a complex and interconnected world, characterized by social and environmental challenges that require collaboration among different actors and the integration of diverse knowledge, skills, and abilities 1↘.

16. Locandina Milano *PhD Design Festival* 2012. Document→

17. Tuuli Mattelmäki al *Milano Design PhD Festival* del 2012. Document→
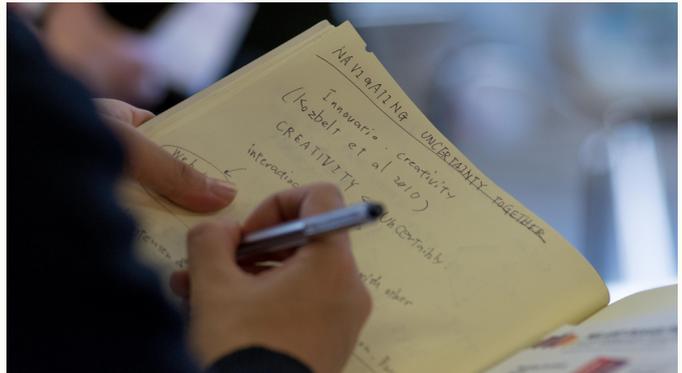
18. Cerimonia di apertura del *Milano Design PhD Festival* 2016. Document→

19. Francesco Trabucco. Document→

20. *Navigare l'incertezza, insieme*. Document→

Note 1. *Navigare l'incertezza, insieme*. Promotional video. Link→

2.2.3 Formalization of the International Network

During the 2018 edition of the *Milano PhD Design Festival*, the foundations were laid for the International Network among six doctoral programs, which would be formalized two years later.

Among the guests in 2018 were representatives from prestigious international design doctoral schools: Weston Baxter from Imperial College of London 21↘, Sampsa Hyysalo from Aalto University, Pieter Jan Stappers from Delft University of Technology 22↘, Carlos Teixeira from IIT (Illinois Institute of Technology), the latter already a guest at Politecnico di Milano during an open seminar in 2017 23↘. They, along with Paola Bertola and Jonathan Chapman (in his role as coordinator of the PhD at Carnegie Mellon University), will be the founders and first members of the Network. In 2018, the festival also changed location, moving from the Castiglioni and De Carli classrooms to *Polifactory*, the Fab Lab of Politecnico di Milano inaugurated in 2015 24↘. This shift marked not only a change in the physical context but also a symbolic change, representing the desire to take a leap towards an experimental approach to doctoral research in design.

Still within the framework of *Polifactory*, the 2020 *PhD Festival* program 25↘ reflected the dynamic and multidisciplinary inclination of design research, formalizing itself with the interaction between the *DESIS Philosophy Talks* 26↘ and the first activities of the Network. Indeed, during the week dedicated to doctoral thesis defenses, the afternoons of February 20th and 21st, 2020, were dedicated to panels respectively titled *PhD in Design — Building a Network of Excellence* and *Designing as a Politics of Nature*. In both discussions, Network representatives, along with other international academic guests and those from Politecnico di Milano, participated in various debates. The first discussions focused on the nature of design as a discipline, while the subsequent ones explored

21. Weston Baxter. Document→

22. Pieter Jan Stappers. Document→

23. Locandina *Open Seminar*. Document→

24. *Milano Design PhD Festival* 2020. Document→

25. Locandina *Milano PhD Design Festival* 2020. Document→

26. Locandine di *The Politics of Nature. A Dialogue on the Politics of Nature Between Design and Philosophy*. Document→

the interconnections between design and philosophy, questioning how to include non-human agents in political discussions.

2.2.4 Interdisciplinary Experiments of the Summer School

In 2019, the first Summer School of the PhD in *Design* was organized, involving not only doctoral students from the 34ᵗʰ cycle of Politecnico di Milano but also a selection of candidates from the other five schools in the Network. The event 2↘ was dedicated to deepening the theme of *Research through Design* through innovative methodologies such as *GigaMapping* 27↘. The maps designed by doctoral students were not only *giga* in size but also multi-layered, hierarchical, expansive, potentially infinite, and interconnected. The event saw the participation of distinguished guests such as Amalia Ercoli-Finzi 28↘ and Jonathan Chapman, contributing to making the Summer School an advanced training event in the field of design.

In the interview with Jonathan Chapman 3↘, recorded during the first Summer School of the Network, it emerges how the richness of these initiatives lies not only in the event itself but in the ability to create over time a continuous and open platform, both physical and intellectual, of reflection and participation for students, professors, and researchers. Each Summer School organized within the PhD in *Design* is conceived as an experiment, with the experiments of previous years serving as a driver for the design of subsequent ones. In this way, a focus on product durability and the concept of *Design that Lasts* introduced during a lecture in 2019 becomes the theme of the 2023 Summer School. The theme of *Design Research Prototyping* will also be explored from a post-humanistic perspective during the 2021 Summer School, titled *More than Human Futures: Reframing Design Knowledge Prototyping for*

Note 2.
Interviews with participants of the 2019 Summer School *Designing Research through Design Experiments*.
Link→

27. *GigaMapping* come strumento di design.
Document→

28. Amalia Ercoli-Finzi durante la Summer School 2019.
Document→

Note 3.
Interview with Jonathan Chapman during the 2019 Summer School *Designing Research through Design Experiments*.
Link→

29. Syllabus Summer School 2021.
Document→

Human-Non-Human Ecologies 29↘. This edition intersected the discussions mentioned previously at the 2020 *PhD Festival* (*Designing as a Politics of Nature*), fitting into the experimental nature framework of these initiatives. The 2020 Summer School discussed *Designing in Transitional Times, Experiment(s) for Future Imagination*, a theme that, from a post-pandemic perspective, aimed to explore new epistemologies and practices that could provide insights for the development of *Research through Design* methods. Once again, the Network placed design research at the center, recognizing the maieutic value of design practices. Moving away from an exclusively positivistic approach, it embraces a problematizing perspective, capable of stimulating new critical questions and opening research horizons 30↘.

2.3 Interconnections

The efforts initiated in 2018 by the Network materialized in 2020 with the funding and launch of the *DoCS4Design* (D4D) project, an Erasmus+ initiative in which six doctoral programs in design collaborate to collect and disseminate their practices and begin to build shared knowledge around doctoral design education. The goal of the three-year *D4D* project is to create a structured research platform and network, promoting collaboration and knowledge exchange among the involved institutions while recognizing and valuing the peculiarities of each program and context.

2.3.1 Round Tables and Laden Tables

The international nature of the *D4D* project is consolidated and takes shape not only through training opportunities such as open lectures and Summer Schools but also through specific meeting moments, both online and in-person. Some of these meetings coincide with other events already mentioned. For example, the 2022 Summer School also becomes an occasion for a meeting of the *D4D* project partners 31↘. Again in 2022, a few weeks after the Milan meeting, the consortium gathers again to participate in the *DRS22* conference, organized by the Design Research Society, in a fresh Bilbao at the end of June. On this occasion, taking advantage of

the international audience as a platform for exchange and interaction, *D4D* is the protagonist of a thematic conversation *Guiding the PhD in Design: Experiences from Six Programmes* 32↘.

This event, moderated and narrated by the coordinators of the consortium's doctoral schools, offered a platform to discuss the challenges of design PhD programs, involving about fifty participants in a hybrid mode (Stappers *et al.,* 2022) 4↘. Starting from a presentation of the mapping of practices of the six programs (van Boeijen & Stappers, 2022) 5↘, the conversation on the design PhD addressed two main themes: strategic and institutional aspects, such as respective research agendas, and logistical and administrative aspects, such as recruitment criteria. Archival images 33↘ and official reporting illustrate how the question at the heart of the event — what is and how is a design PhD built? — can be articulated in different ways, considering the people, processes, and contents of the programs themselves.

The conversation was an opportunity to emphasize the importance of planning and supporting multiple and different configurations in the structure of design PhD programs. Celebrating this plurality remains the focus of the Network, with the idea that it is essential to value different approaches, tell their stories, and build on them. We remember, in this regard, the round tables dedicated to *PhD X Industry* and *PhD X No Profit*, set up in New York in the spring of 2023. During these events, the focus of the discussions was to bring the richness of the diversity of design PhD programs outside academia.

In this perspective, leading companies were involved to reflect on the impact of the PhD even outside the academic world, creating fertile ground to foster growth in these directions. But the *D4D* project's tables are not only *round*. There is also the laden table depicted in an image produced by Pieter

32. Guiding the PhD in *Design*. Document→

Note 4. Link→

Note 5. Link→

33. Spunti di riflessione dalla conversazione *Guiding the PhD in Design*. Document→

34. Partecipanti a *DoCS4Design*, Londra 2022. Document→

Jan Stappers, showing consortium members during a dinner at the meeting held in London in October 2022 34↘. This image joins many others, such as those in Milan 35↘, Bilbao 36↘, Helsinki 37↘, depicting participants in moments of conviviality, crucial in strengthening a sense of community, shared intentions, and collaboration.

2.3.2 Itineraries

The push towards new interdisciplinary horizons, where design research acts as a mediator and catalyst, is also witnessed by the Evening Lectures, organized since 2022 in the context of the PhD in *Design*, curated by Rodolfo Maffeis and coordinated by Lucia Rampino. Notable recent interventions include those by Annemiek van Boeijen 38↘ and Pieter Desmet 39↘ from TU Delft, Tuuli Mattelmäki from Aalto University 40↘, already an actress at one of the first *PhD Festivals* in 2012; but also interventions from scholars from other disciplinary contexts such as Dario Donetti, from architectural history 41↘, Federica Timeto, from sociology of cultural processes 42↘, Adam Nocek 43↘ from philosophy of technology, and Nolan Gertz from philosophy 44↘.

Initially aimed only at the PhD community (doctoral students plus members of the faculty board), since April 2024, these meetings have been open to all faculty members of the Design Department. Each meeting contributes to shaping the multidimensional vision of design, highlighting its potential through connections with philosophy, society, and technology. The evening lectures, in the spirit inherited from the *Milano PhD Design Festival*, take place within the *Polifactory* framework and conclude with an aperitif, helping to create connections, revisit known itineraries, and discover different places, expanding research horizons from an interdisciplinary and international perspective.

2.3.3 Wonders

Navigating platforms, seeking resources, identifying connections, all while embracing serendipity. In this regard, the

PhD program in *Design* at Politecnico di Milano has pioneered a platform for archiving and exploring *Open Educational Resources* (OERs) for doctoral research, designed to connect content and promote connections between people. This platform is called *Wunderlibrary,* a digital library inspired by the Renaissance curiosity cabinets, known in German as *wunderkammer*, envisioning the library as a tool and place for organizing and exploring collections of artifacts. *Wunderlibrary* is a dynamic archive of resources that showcases the evolution of design education, offering insights and inspiration for doctoral students, researchers, and faculty members.

One of the most complex aspects of designing the platform was defining the ontology of the contents, creating a relational structure of keywords that could describe design research through labels.

Consequently, the *Wunderlibrary*, with the intent of generating a network that considers all methodological and interdisciplinary nuances of doctoral theses, required a new structure. Mattioli, Figoli, and Stappers (2023), in their publication *Connecting the PhD in Design. How PhDs Label Their Thesis Research* 6↘, recount the complexity of the design and curation process of the ontology, as well as the strategies adopted to validate its effectiveness, such as inter-institutional training events organized within the *Docs4Design* project for the PhD classes of 2022 in London and 2023 in Aalto 45↘.

With the backbone of the platform defined, including the ontological skeleton and a clear definition of the types of resources that could be uploaded, it was necessary to shape the platform as an interactive artifact. With *Wunderlibrary*, users are given the ability to upload their resources and access those uploaded by others, exploring and downloading content using various filters by label, date, author, and category. Adding new resources enriches both the users' personal profiles and the overall platform archive. Additionally, users can create personalized collections from the available resources, facilitating the organization and sharing of educational material.

The training events mentioned above were also effective in collecting feedback on the platform's early prototypes. For example, the platform was first tested during the 2022 Summer School, which, as previously mentioned, was also an oppor-

tunity for partners in the Network to meet. One of the earliest images of the platform architecture dates back to 2022 46↘. This structure evolved interactively into an initial prototype, which was then implemented and improved in two subsequent versions 47↘ 48↘. In its final version, *Wunderlibrary* features advanced cross-search functionalities, optimized resource
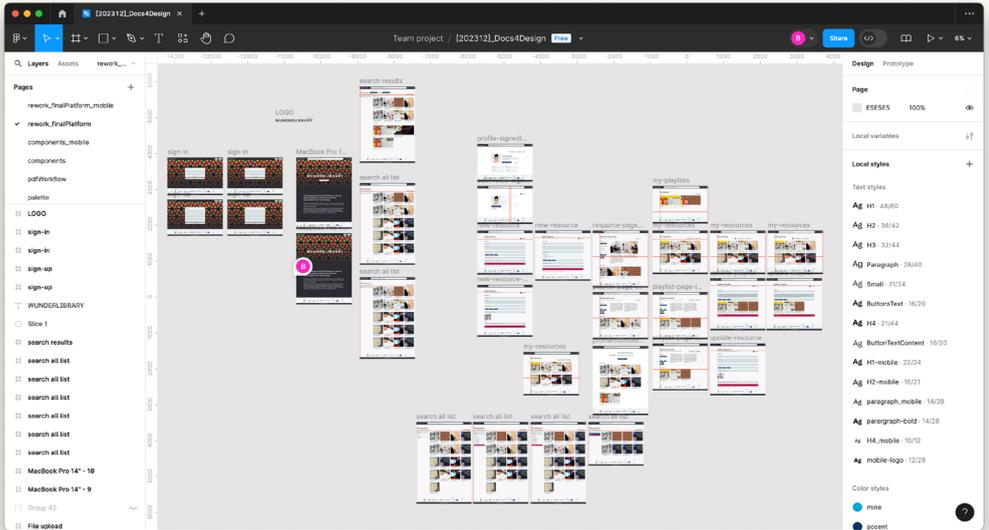
visualization, and a renewed graphical appearance. This new look uses the original colors of the consortium 49↘ and six basic geometric shapes, generating kaleidoscope-like combinations of shapes and colors. These combinations are potentially infinite, much like the future virtual and real connections that this newborn platform will generate.

2.4 Conclusions and Future Perspectives

In the story we chose to tell, the platform is a meeting place like the *Milano Design PhD Festival*, a vibrant place like *Polifactory*, a *GigaMap* expanding without boundaries, an international event like *DRS*, a table set with ideas, a moment of collective learning, a network of invisible connections. Initiatives like the *Milano Design PhD Festival*, *Docs4Design*, and the Summer Schools are testament to a journey of growth

and relentless pursuit of improvement. The *Milano Design PhD Festival* has transformed the idea of international collaboration into reality: attracting world-renowned experts, it has become a platform organized by the PhD program in *Design* at Politecnico to promote and expand the disciplinary debate, aiming to improve its quality through the exchange and dissemination of plural perspectives. The Summer Schools, evening lectures, and Network have solidified the international network, offering opportunities for the exchange of interdisciplinary knowledge. The creation of *Wunderlibrary* represents a further advancement in knowledge sharing, providing a dynamic space for exploration and the creation of new connections based on a shared legacy of words and concepts related to doctoral research in *Design*. Politecnico di Milano has created a renowned doctoral program in *Design* that annually attracts over a hundred applications from around the world and has demonstrated the ability to promote and catalyze international collaborations and knowledge exchanges.

2.5 Behind the Scenes

Narrating over thirty years of the PhD in *Design* at Politecnico di Milano was no easy task, and this is just one of many versions and stories that could be told. The intention of this essay is to illustrate how connections and relationships have evolved over time, showing how seeds planted in the past have led to fruitful collaborations. Above all, it is essential to recognize that this work would have been impossible without the contributions of all the people who have enriched and nurtured this archive of materials. In addition to the co-authors of this essay, special thanks go to Ilaria Mariani and Annalinda de Rosa for designing many of the provided materials and for the impressive archival work, without which it would have been impossible to retrieve many documents. For the *Interconnections* section, thanks to Ambra Borin and Elena Aversa for designing and providing the posters for the evening lectures. Moreover, we want to acknowledge that all the contributions and efforts cited in this essay are the result of years of research, discussion, and exploration of new horizons.

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