

# Exploring Tomás Maldonado

EDITED BY

**Pierfrancesco Califano**



Fondazione  
Giangiacomo  
Feltrinelli

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Scenari 45



# Scenari



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Pierfrancesco Califano



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**POLITECNICO**  
MILANO 1863

SCUOLA DEL DESIGN



**DOTTORATO**  
DI RICERCA  
IN DESIGN

POLITECNICO DI MILANO  
DIPARTIMENTO DI DESIGN

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# **Colour. Codes and Perception through Artistic Practice and Didactics**

*Federica Delprino, Monica Oddone, Angelica Vandi*

## **Maldonado's Artistic Experience: a Thematic Introduction**

The role of artistic practice, according to Tomás Maldonado, constitutes one of the first cognitive and intellectual processes that, although considered a “pure manual and aesthetic exercise” (Maldonado, 1951, p. 21. Translated by the authors), leads human beings to materialise their thoughts in order to explore the space and reality that surrounds them.

Considered one of the protagonists of the mid-20th century Latin American Concrete Art movement, in 1946, through the Inventionist Manifesto, he recognised the close link between reality and art, seeing the latter as an effective tool to enhance life and to place man and the community in the world.<sup>1</sup>

“To surround a man with real things and not with phantoms.” With this statement, Tomás Maldonado demonstrated the profound dis-

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<sup>1</sup> The manifesto is published for the first time in the bulletin “Arte concreto – Invenición”, 1, August 1946.

tance between concretism and the previous figurative avant-garde movements of the early 20th century focused, instead, on illusion and lyrical abstraction from reality (Maldonado, 1946). If abstract works had reality as their starting point, which they interpret and elaborate, concretism aspired to contribute with the artwork itself to reality.

It also shows a strong influence of the work of the De Stijl and Bauhaus exponents, especially Theo Van Doesburg and Max Bill's. They believed that, in the same way in which man designs tools for material use, the aim of concrete art becomes the production of objects for intellectual and speculative use, based on lines, colours and surfaces that follow a geometric pattern, without referring to any further symbolic meaning.

With the *Asociación Arte Concreto-Invencción*, Maldonado also intended to contaminate his artistic practice with design disciplines, including industrial design. Indeed, the roots of Argentine concretism could also be found in Russian constructivism, confirming a functional role of art linked to other areas of production such as industry and technology. The painting was seen as a theoretical project with a solid, educational, and didactic aspect, anticipating the exercises of the Fundamental Course at the Hochschule für Gestaltung Ulm (HfG).

Pursuing the analysis of the intellectual processes arising from the interaction between the work of art, the viewer and societal engagement, Maldonado's essay *El arte concreto y el problema de lo ilimitado. Notas para un estudio teórico* investigated the fundamental relationship between figure and background, with an emphasis on issues related to space and illusion. As a matter of fact, if every figure on background determines space and if this space is within a plane (the canvas), on this surface the space becomes illusory, which is not admissible for a concretist painter. Maldonado and all the concretist artists continually strove to destroy this illusory space, first by trying to dissolve it through the objectivation of the figures in the foreground, then by trying to overcome the narrowness of the figures by "making the ground vibrate" (Huff, 2018, p. 79). It led to a representational situation in

which the “unlimited” was sought within a limited form such as the canvas, committing the error also common to the Futurists.

In this context, colour research became important for Maldonado’s artistic practice and didactic design activities. It became a fundamental medium for achieving the aims envisaged by the concretist artistic practice as it favoured games of visual perception and training to perceive space in an unlimited, undefined, closed way. Hue thus became the bearer of visual ambiguity, leading the viewer to seek stimuli for critical thought in the interference between different shades, changes of saturation, light and dark. It is important to highlight that this ceaseless study led Maldonado in his old age to reorientate his convictions on concrete art, considering figuration and non-figuration two practices of mutual stimulation cooperating for the same purpose (Maldonado, 2010).

However, it is important to underline how his research, oriented above all towards the study of the colour role within the work of concrete art, had a direct and reciprocal influence on his role as a teacher at the Ulm School, emphasising and confirming the relevance of art within the design process aimed at the production of artefacts.

The pedagogical itinerary involving the teaching of colour at the HfG confirms the revolutionary significance of the German school as a research institute for industrial production during the mid-20th century. Tomás Maldonado, who moved to Ulm in 1954, represented the culmination of a didactic process in which colour was studied analytically, then experientially, to become a mere design code, aligning with the aims of HfG didactics that were “not limited to the design of consumer goods, but also included the design of elements and systems for the development of construction, science, means of transport and graphic, visual and sound supports for a rapidly expanding media” (Fernández Campos, Sánchez Moya, 2021, p. 179).

In light of this scenario, the principal lecturers of the Visuelle Einführung chair, (the core of the visual training subjects in the Basic Course or *Grundlehre*, first year), who had a profound influence on Maldonado’s work, are briefly listed and explained below.

The first approach to colour as a methodical design asset comes from Helene Nonné-Schmidt, a former Bauhaus graduate. She constituted Maldonado’s first reference as Nonné proposed students to develop a systematic study based on investigating the behaviour of hue, its lightness and saturation (Figure 1). The dissection of colour indeed led to identifying its main components used as a “tool for the generation of coherent palettes with chromatic identity for application in industrial, graphic and construction projects” (Fernández Campos, Sánchez Moya, 2021, p. 181).

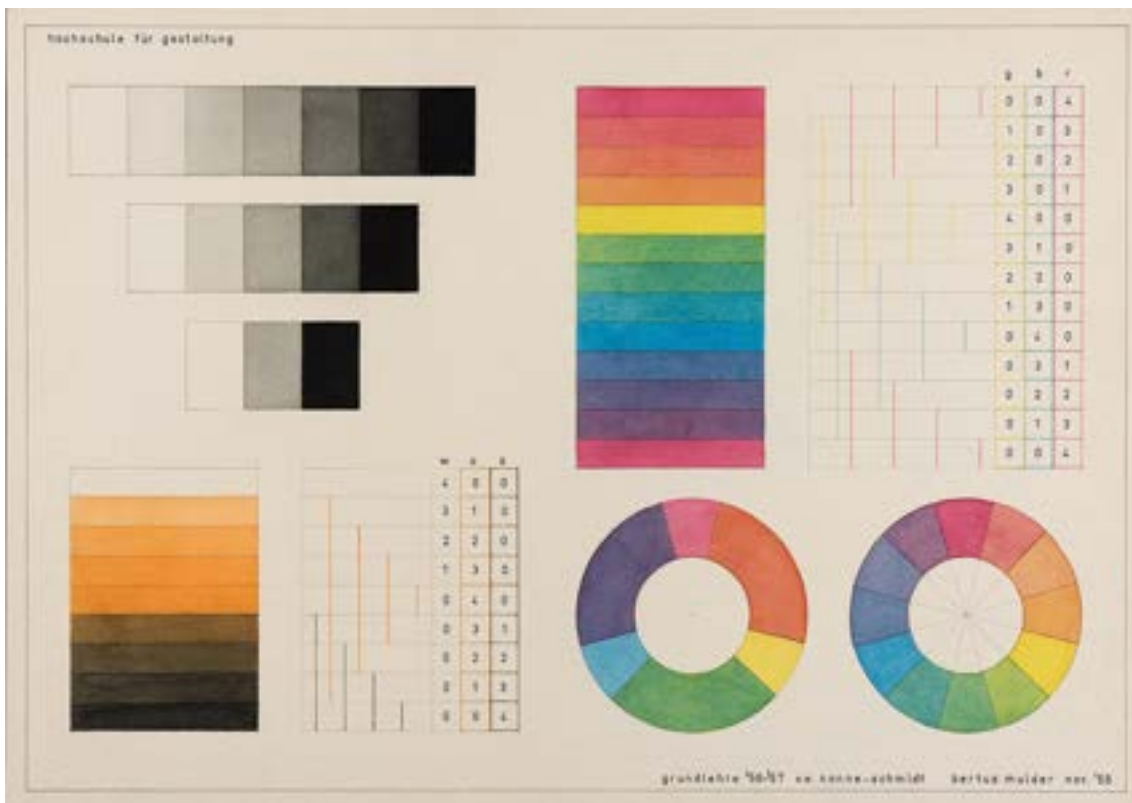


Figure 1. The careful study of the behaviour, lightness and saturation of hue during Nonné-Schmidt’s course, 1956-57. From: Fernández Campos, Sánchez Moya, 2021.

The second didactic influence comes from Josef Albers and Johannes Itten and their constant research about the perceptual effects resulting from the combination of different colour sets. Both Albers and Itten introduced the teaching of colour contrasts to prioritise the “ability to see colours” over “knowledge of colours” like perceptual alterations as consequences of intersections and interactions: “the title of the exer-

cises anticipated their objective: one colour looks like two, two colours look like one, illusory mixtures and transparency, progenitor colours, intersection of colours, mixtures, transformations, quantity of colour, vibrant edge” (Fernández Campos, Sánchez Moya, 2021, p. 183).

Maldonado began his experience by observing, in a first phase, the work of his predecessors, who were developing methodical and empirical teachings in the Basic Course. This ambivalent reading conveyed in his cutting-edge conception of the design process as a system outlined by scientific reasoning and intuition and synesthetic perception.

These progressive modifications within the course contributed to a profound change in the conception of the figure of the designer who is no longer an artist (a Bauhaus legacy promoted in Ulm School by Max Bill) but an “integrator” with responsibility for incorporating a large number of competencies acquired through educational training, which was seen as a systems-thinking approach embodying both art and science.

### **The Influence of Maldonado’s Artistic Research: Colour and Perception Principles through Ulm’s Didactics**

We consider that the HfG’s contribution to the renewal of education in applying art to the industry is particularly fascinating under the perspective of colour. Tomás Maldonado is indeed one of the key protagonists of this paradigmatic shift.

With Maldonado, the scientific and perceptive properties of colour were integrated into the methodology of design by creating systems of relationships supported by the internal logic of colour, analysed and understood thanks to shape fragmentations.

Maldonado tackled the study of colour not as the main focus of the subject within the Basic Course, but as one of the many generative laws that lead to the relationship between background and figure in a representation. As confirmed by the evidence of William S. Huff, student and professor at the HfG and a leading expert in Maldonado’s didactic work, all the generative laws (such as symmetry, topology and

the theory of Gestalt perception) taught in his Basic Design exercises were deeply imbued with concretism beliefs. The colour from simple tonality thus became a code, a design tool used to understand specific visual systems of industrial artefacts, ceasing to be an object of study but becoming a vector for solving the ambiguous perception of the background and the figure in a composition, or the visual balance to neutralise the depth of black (Huff, 2009).

This ideology was materialised through the proposal of a series of Basic Design exercises that followed “the laws of Gestalt, the topological figures of fractal structure, the laws of symmetry and the raster or grid” (Fernández Campos, Sánchez Moya, 2021, p. 184).

Colour was no longer understood as a plastic element of purely aesthetic properties but as a tool integrated into a design system aimed at realising concrete elements. In his essay, Huff listed the series of assignments that Maldonado proposed to the students of the Basic Course in the academic year 1956-1957: there were symmetry and parquetry exercises (Figure 2); exercises related to proximity and similarity based on Gestalt; depth perception exercises based on the overlapping of different grounds and their related ambiguity; Inexact through exact (Figure 3), which gives rise to imprecise figures starting from defined rasters, and vice versa Exact through inexact; Black as colour in a Peano curve (Figure 4), whose challenge was not to turn black into a hole; other perception exercises in which squares were divided in rows that step-by-step shifted into rings with increasingly rounded edges.

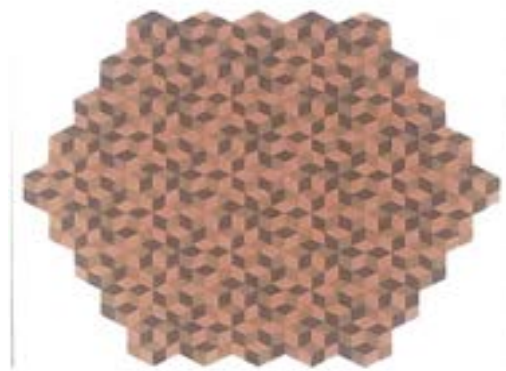


Figure 2. William Huff's assignment Parquetry during Maldonado's course, 1956-57. From: Huff, 2018.



Figure 3. William Huff's assignment Inexact through exact during Maldonado's course, 1956-57. From: Huff, 2018.



Figure 4. Klaus Krippendorff's assignment Black as colour during Maldonado's course, 1956-57. From: Fernández Campos, Sánchez Moya, 2021.



## **From Experience to Legacy: the Mutual Influence between Artistic and Design Practice**

As seen above, starting from the analysis of Tomás Maldonado's artistic practice, linked since his debut to Argentine concretism, we can identify how much his conception of painting as “pure manual and aesthetic exercise” had a strong influence on his teaching experience during the Basic Course in Ulm. Meanwhile, his use of colour as a code and his studies on the ambiguity of perception have reverberated in his more recent paintings. As he states: “Every painting is a new experience for me. [...] It is not entirely true that my works do not express continuity. The only difference is that it is a less explicit continuity” (Maldonado, 2010, p. 56. Translated by the authors). In these words emerges the importance of artistic practice as a tool for interdisciplinary exploration involving topics that are only apparently unrelated – such as cognitive science, perception, and psychology – and the fundamental role of colour in visual phenomena. Indeed, Maldonado recognizes that colour is an important element of vision, not only based on a double binary – on one side, the abstract-mathematical component and, on the other, the daily sensitive, emotional and creative experience related to its perception – and introduces its virtual nature as a construct present in our brain, indispensable in defining our relationship with reality (Maldonado, 1997).

In design education, it is possible to recognise how School of Ulm's colour exercises anticipate an approach that is strongly linked to digital technology, using a logic of representation that is a forerunner of pixels and raster images. Because of these characteristics, which are not only formal but also conceptual, they are now taken up in the teaching of Basic Design, defined by Giovanni Anceschi (2016) as an activity that “interweaves propaedeutics (teaching how to do) and disciplinary foundation (understanding the theoretical and conceptual articulations involved)”. In continuity with Maldonado's work in Ulm, the Basic Design exercises break down the design activity into its essential components, isolating and deepening them through tar-

geted exercises. The exercises on form, perception and colour, initially carried out by hand using techniques close to artistic production (watercolours, pencils, acrylics), are now re-proposed in design courses to familiarise students with modern digital tools, thus defining a discipline called Basic Digital Design.

However, this recent evolution due to technology should not be seen as a complete replacement to the previous one but, in line with Maldonado's thinking, an additive perspective should be adopted within which the new alternatives are placed alongside the previous methods. Indeed, the principles and objectives of the exercises remain unchanged, offering dual experimentation in the field of colour, both material and digital. It allows the future designer to gain awareness in different application contexts, integrating new tools and skills. In this specific case, the computer tool could not only be proposed as a means of re-doing the exercises in a digital environment, but also as a "new prosthesis capable of characterising not only the visible results but above all the *forma mentis* of the graphic designer and his logical-operative method" (Francavilla, 2011, p. 8. Translated by the authors), in continuity with what was promoted by the *Grundlehre* in Ulm.

Within contemporary art practice, we find different ways of using colour to echo artworks and exercises related to Maldonado and his school of thought. This tendency of art to offer re-elaborations rather than real innovations is justified by the fact that the great *avant-gardes* of the 1920s, 1930s and 1940s represented the real turning point in redefining artistic practice: everything that follows can only attempt to reinterpret and deepen what has already been discovered through their language. If this is true from a conceptual and formal point of view, technological evolution, however, has offered artists new tools to express themselves coherently with their ideology: "Different artistic tendencies, albeit with opposing visions, are now gathering around the same reservoir of techniques – techniques of iconic computer production – from which each of them hopes to be able to refuel, without betraying their original programmatic matrices" (Maldonado, 1992, p. 61. Translated by the authors). Thus we speak of New Media Art, "an

artistic movement that uses emerging media technologies that address the cultural, political and aesthetic potential of these tools” (Mancuso, 2020. Translated by the authors). Brushes and pencils are replaced by photographs, video footage, film, print, fax, music, and performance to arrive at more recent experiments between computers and networks (Frieling, Daniels, 2006).

Its application is even more interesting in the discourse on colour, as it has always been a component directly influenced by highly technical aspects such as the availability of raw materials and transformation processes (Ball, 2007). The possibility of having a virtual canvas available – even reaching the point of working on three-dimensional spaces – and millions of colours made accessible by digital media – not only subtractive colours, but also additive mixing with the use of light as material – has multiplied the experimental and expressive potential inherited from concrete art and the exercises from HfG.

### **The Legacy: Past and Present towards the Future**

Maldonado’s line of thought and experimentation show that he has always been interested in evolving his approach and techniques based on new technologies and following the social impetus of the moment. In this perspective, we can consider how he left a legacy not only in terms of design notions, but in the very attitude to design and the designer’s relationship with contemporary reality. It means taking into account emerging needs and consequently knowing how to evolve his point of view and adapt his methods according to contemporaneity. Therefore, it is interesting to consider the influences between artistic practice, colour, and perception triggered by new multimedia technologies.

Tomás Maldonado had always shown a growing interest in new technologies as essential tools for designing and proposed them in different areas of study, experimentation, teaching and professional work. Incorporating the latest technologies and the consequent de-

velopment of new possibilities does not mean excluding all previous work but rather integrating them into new processes.

This is why it is interesting to observe how artists and designers, over time, seem to work alongside his reasoning and even indirectly pick up his legacy.

From this perspective, colour exercises may find not just a different application from an experimental point of view, but also evolve into a real form of expression.

In the perceptive exercise *Antiprimadonna* (Figure 5), the aim is to create a composition by means of a sequence of five spot colours and two black and white textures (different and not adjacent), choosing isometric or isomorphic colours and screens so that none prevails over the other (Ferraris, 2014). It was an exercise aimed at training the students' ability to juxtapose colours in a considered way, triggering a critical spirit and thus creating "palettes". This can be done by putting together a series of cards, making textures by hand or creating colour fields using Pantone, watercolours, etc., which can also be of different widths to play on visual weights. Imagine doing the same exercise digitally: the result will be very different as it will be less textured, but it is useful and interesting to compare the same choice of colours with a digital creation.

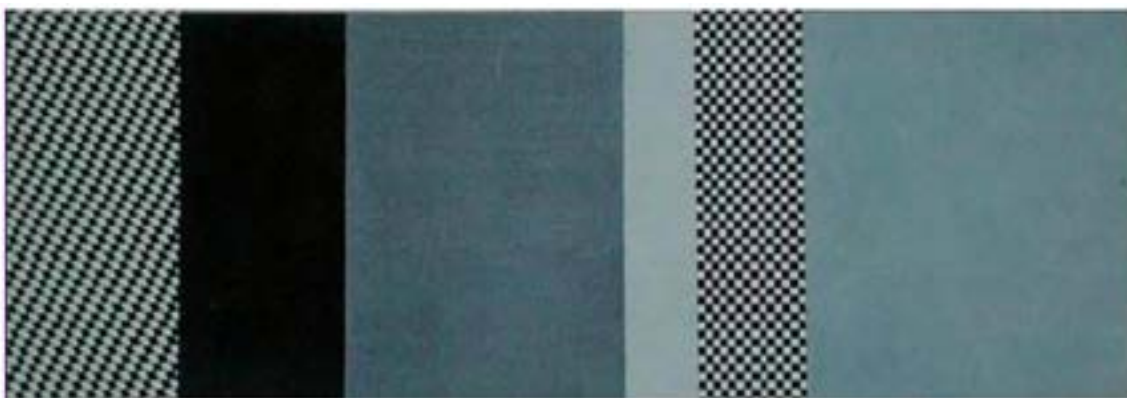


Figure 5. Giovanni Anceschi's assignment *Antiprimadonna* during Maldonado's course, 1962-63. From: [https://www.researchgate.net/publication/43901647\\_Sviluppo\\_di\\_un%27interfaccia\\_audio-aptica\\_basata\\_sulla\\_profondita\\_spaziale](https://www.researchgate.net/publication/43901647_Sviluppo_di_un%27interfaccia_audio-aptica_basata_sulla_profondita_spaziale)

What if this sequence of colours was multiplied, enlarged and projected within a space? Olafur Eliasson's *I only see things when they move* (Figure 6), first set up in 2004, is an installation in which a series of rotating coloured glass panels in the centre of the room create a play of colours by projecting bands of different shades onto the surrounding walls. The Danish/Icelandic artist's aim is to create complex optical phenomena using simple makeshift technical devices such as mirrors reflecting the light beams of reflectors and kaleidoscopes producing coloured prismatic effects (Bee, Heliczner, McFadden, 2013).



Figure 6. Olafur Eliasson, *I only see things when they move*, 2004. Installation view at Moderna Museet / ArkDes, Stockholm, 2015. Photo by Anders Sune Berg. From: <https://www.olafureliasson.net/>

In addition to the chosen aesthetics and the immersiveness of the installation, the choice to make the “mechanics” of the work visible is particularly interesting, placing the artifice itself that creates the projection in the centre of the room, explaining the motive behind the choice of title: “I only see things when they move”. Indeed, it is a motor that makes the plates turn individually, thus creating a mobile spectrum of colours, of vertical reflections on the surfaces immediately around them.

The work reflects on the relationship between the human being and subjectivity, between the individual and space, creating a fruition of

the same that is not merely passive, but creates a sort of social experience.

Considering Tomás Maldonado's approach, we can identify contemporary figures with him and who have flanked and developed three main themes related to colour, which can then be re-identified in his legacy, picked up and held by modern designers and artists. These are: (i) a mathematical approach to colour, (ii) colour as experimentation with new media, (iii) colour exercises in interactive space.

Taking into account the exercises proposed at the Ulm School, based on geometric models that students had to rethink through rules of variation of given geometric modules (Neves, Rocha, 2013), a mathematical but at the same time a creative approach is clearly shown. The students were indeed called upon to interpret the form creatively, even though they started from well-established mathematical rules. As highlighted previously, this attitude carried out with Max Bill at the Ulm School was already experimented with concretism with the shape of the frame corresponding to the internal motif. Those, depicted in the canvases and with a "coplanar" composition – in which the forms were released from the canvas into space through the use of a grid and harmonisation of colour– can be found in further didactic, artistic, design-related experimentations after the 2000s (Crispiani, 2010).

Giovanni Anceschi, Nunzia Coco and Nicola Vittori reintroduced a Basic Design workshop at the Iuav in Venice in 2006-2007 (Coco, 2010), a multisensory exercise by Moholy-Nagy,<sup>2</sup> which can be traced back to the first experiments on tactility at a quasi-synaesthetic level (Figure 7). It is put into practice a pathway that starts from a sensory experience and turns it into an output with a defined and intelligible form, describable through mathematical forms and proportions.

Concepts such as rarefaction and densification, texture, symmetry and deformation represent fundamental arguments of Basic Design

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2 Moholy-Nagy's Exercise, 2006-2007. Iuav PhD in Venice curated the 1st edition of the design pedagogy Seminar/Workshop in 2006. The 1st Edition was titled "Basic Design: la tradizione del nuovo", 2006. The 2nd edition was titled "New Basic Design: il basic dell'interazione", 2007.

that we have seen pass from Ulm with Maldonado, Huff and Bill, and then applied in the extreme experiments of John Maeda at the MIT in Boston. Here the basic themes of graphic syntax are revisited from the perspective of the digital tool through graphic software such as Adobe Illustrator and mechanical hardware (Francavilla, 2011).



Figure 7. Exercise inspired to Laszlo Moholy-Nagy, proposed by Giovanni Anceschi, Nunzia Coco and Nicola Vittori in 2006 at Iuav. From: “Progetto grafico”, 12, 2008.

The visual artwork Fireball (Figure 8), for example, was created in collaboration with the Italian company Sawaya Moroni by programming a dedicated algorithm to achieve a specific aesthetic and use of colour, seeking a balance between the use of technology and emotion (Maeda, 2006) of which these practices are a synthesis.



Figure 8. John Maeda, Fireball, 2005. From: Aprile, 2016.

Therefore, colour can be used as an experiment in new media and new technologies, whereby the latter can be integrated to harmonise colour digitally or automate specific processes. This is the case with Crypto-Art (Figure 9) and Generative Art (Figure 10), which focus on generating colours and shapes using algorithms and make it possible for spectators to buy, enjoy and participate in the works in sundry ways.

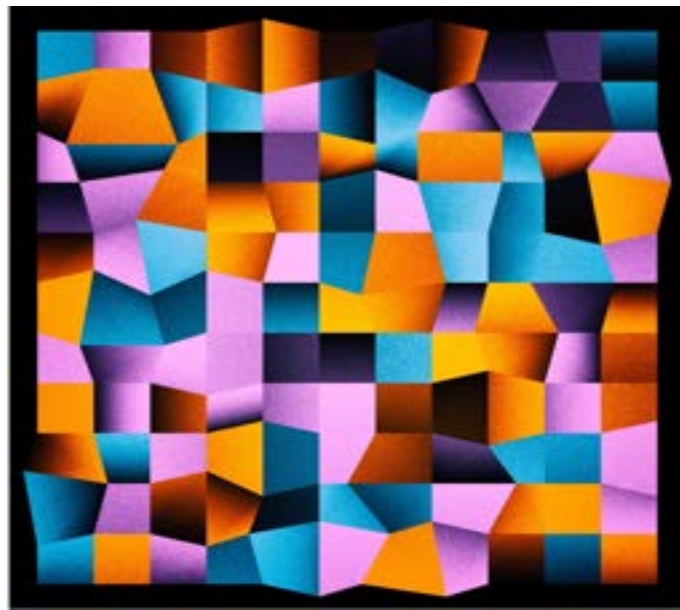


Figure 9. Manolo Gamboa Naon, ddfrcfc, 2020. From: <https://cryptoart.io/artist/manoloide>



Figure 10. Pindar Van Arman invented CloudPainter and created robots that paint for over ten years using AI, robotics arms and 3D printing, 2018. From: <https://aiartists.org/pindar-van-arman>



This switch may require mechanical tools and algorithmic processing, but it may also be relevant to a mere change of medium. After a traditional training and a long career based on works on canvas, the artist David Hockney decided to switch to iPad drawings (Figure 11), applying his knowledge and aesthetics to the potential of the new technological medium. Using a “few pounds” application (Franceschini, 2012), the artist appreciates the ability to paint with his fingers on the screen, change the thickness of the brush, mix the colour, change the brightness quickly and conveniently, and the portability and ease of use of the tool. According to Hockney, these features are the ones that many artists of the past would have appreciated: “From Tiepolo to Van Gogh” with “the only disadvantage of not feeling the resistance of the paper to the pencil or brush, an important factor for those who draw or paint, but the advantages outweigh the disadvantages” (Savelli, 2020).



Figure 11. Three works from David Hockney’s *The Yosemite Suite*, 2010-11. From: <https://www.nytimes.com/2016/05/02/t-magazine/art/david-hockney-yosemite-ipad-paintings.html>

As already seen through the experience of Olafur Eliasson’s installations, exercises with colour can be brought into interactive space with fascinating results. New technologies make it possible to practice all those colour games interactively, exploring them directly through one’s own body. With *Your uncertain shadow (colour)* (Figure 12) visitors can bring their bodies into play, reducing them to shadows

and multiplying them during this installation with different colour schemes, pervading the space and interacting with others on the gallery walls.



Figure 12. Olafur Eliasson, *Your uncertain shadow (colour)*, 2010. Photo by María del Pilar García Ayensa. From: <https://www.olafureliasson.net/>

TeamLab fielded another interesting relationship between body and space through the interactive installation *Graffiti Flower Bomb* (Figure 13) implemented in 2018 at the MORI Building Digital Art Museum. Here, flowers, drawn on a paper in “Graffiti Nature”, appear on the wall and grow in clusters, bloom or disperse by interaction with visiting people who, by placing their hands on the wall, can capture them and make them blossom, while when they move them, they make them disperse. This work is designed to spread awareness about endangered wildlife by connecting people with natural elements. The deployment by people of their bodies can create a positive memory, remembrance and attachment to the cause, a different involvement precisely because they are deployed on a personal level.

The same happens through installations in which the visitor can manipulate elements of the work and the colour itself with his own hands (Figure 14). In both cases the body is involved as an essential part of the installation, and the experience becomes immersive.

EXPLORING TOMÁS MALDONADO



Figure 13. TeamLab, Graffiti Flower Bomb, MORI Building Digital Art Museum, 2018. From: <https://borderless.teamlab.art/ew/bombing/>

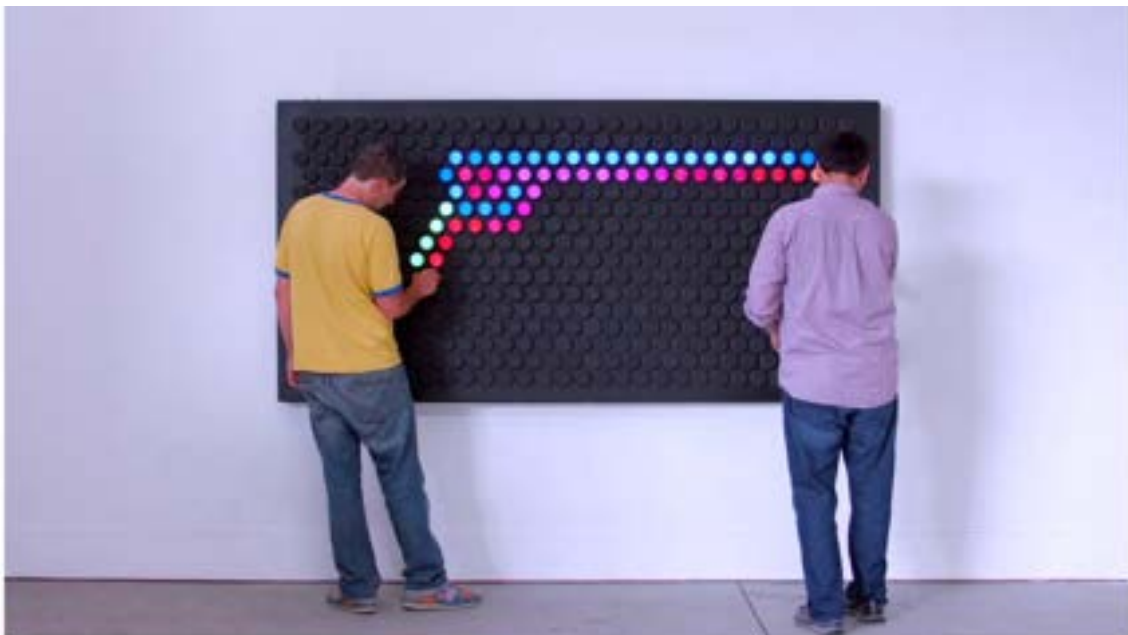


Figure 14. Hero Design, Everbright, 2015. From: <https://theeverbright.com/>

## Conclusion: Future Perspectives and Directions

In interpreting Maldonado's approach to colour, originated in the artistic field and developed in the design domain through his teaching career, practises linked both to contemporary society and the evolution of technological means have been identified as vital inspiration for designers and creative people in the contemporary era. These processes can be traced back to two strands that will characterise the future art and design scene: on the one hand, colour will continue to be used to master the medium (as a simulation in the analogue sphere and as an expressive tool in the digital context), on the other hand, it will seek to overcome technological limits by pursuing the free creation of meaning.

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# Contributors

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*Evolution of Prototypes: A discussion on Terms and Meanings* (2021); with Lucia Rampino, *Just a Natural Talk? The Rise of Intelligent Personal Assistants and the (Hidden) Legacy of Ubiquitous Computing* (2020).

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Paola Bertola. Full Professor at the School of Design at Politecnico di Milano, PhD in Industrial Design and Multimedia Communication, she was scholar researcher at the Illinois Institute of Technology, under the supervision of John Heskett. She currently teaches in the MSc programs in Products Service System and Design for the Fashion System, and has also been teaching in several Politecnico joint programs among which "Data-Shack" with Harvard University, and Data-Life with NYU. She directed the PhD Program in Design at Politecnico between 2017 to 2021. She is the Scientific Director of the Gianfranco Ferré Research Center for digital innovation in cultural and creative industries. Her research focuses on design driven innovation as a key driver towards sustainability for Cultural and Creative Industries. Twice awarded together with other Politecnico colleagues with the ADI "Compasso d'Oro" for research (2001-2011).

Eva Vanessa Bruno is designer and PhD student in Management, Production and Design at the Politecnico di Torino. She is currently con-



ducting research on the enhancement of production culture through the design-driven process of industrial conversion and product diversification for companies in Piedmont, in collaboration with the Torino Chamber of Commerce. With Beatrice Lerma, *RICONVERSIONE INDUSTRIALE NEI CLUSTER PRODUTTIVI Design e conservazione attiva del know-how locale* (2021); con Asja Aulisio, *Design sistemico e paesaggi culturali. Una visione olistica e globale per la valorizzazione dell'economia locale* (2021); with Beatrice Lerma, *Design-driven Industrial conversion during COVID-19 Global Outbreak. A systemic business strategy and design approaches to face a complex market crisis* (2021).

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*Irene Caputo* is systemic designer particularly keen on relationships between cultures, and enhancement of territorial identities. She is currently a PhD student in Management, Production and Design at the Department of Architecture and Design of Politecnico di Torino, with a research project on the improvement of cultural heritage and cultural accessibility, with the aim of highlighting new approaches

in defining the relationships between design, cultural heritage and communities. With Marco Bozzola, Claudia De Giorgi, *A Cup of Coffee between Tradition and New Cross-Cultural Experimentations* (2021); with Marco Bozzola, Claudia De Giorgi *Heritage and cultural accessibility: the role of design in the creation of an intercultural dialogue* (2021), *Riprogettare i confini. Gli strumenti del design come veicolo di messaggi di cambiamento* (2020).

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*Andrea Cattabriga* is PhD student, former adjunct professor, member of the Advanced Design Unit at the University of Bologna. Designer, consultant and trainer with more than ten years of experience on design-driven, open and bottom-up innovation approaches. His current research explores the relationship between design practice and artificial intelligence in the context of responsible research and innovation.

Since 2011 he has been working on the development of distributed, sustainable production systems and digital platforms, advocating for open design practices, as co-founder of Slow/d, an award-winning Italian design firm. As senior technology transfer, he has contributed to the implementation of several makerspace living labs, open innovation labs for public-private consortia. Speaker and presenter in more than 30 conferences, in 2020 he has been awarded with the III Triple Helix Summit Best Early Career Researcher Award for a submitted paper.

Industrial, systemic and nautical designer, *Massimiliano Cavallin* is a PhD candidate in Sea Sciences and Technologies at University of Genoa. His research focuses on achieving sustainability on cruise ships and large vessels by introducing systemic design practices in a concept of a self-sustainable, autopoietic system incorporating the interaction between the object, the users and the local environment. In the past, he cooperated with UEMG in Belo Horizonte (Minas Gerais, Brazil), in the compilation of the institute's first sustainability report in a joint project with his alma mater, the Politecnico di Torino. Currently he and her PhD colleague Angela Denise Peri are assistants to several project laboratories at the Campus Marconi in La Spezia, a detachment of the University of Genoa, under the supervision of professors Mario Ivan Zignego and Massimo Musio-Sale, in both Italian and English languages. *ED.UEMG – Relatório de Sustentabilidade* (2011).

*Camelia Chivăran* is an architect and PhD student in Environment, Design and Innovation at the University of Campania Luigi Vanvitelli. She is involved in the study of innovative models, tools and systems for the multisensory use and experience of the visible and “invisible” cultural heritage and thus for knowledge sharing. She has participated in national and international projects, workshops and conferences on topics related to architecture, sustainable development and the experience of cultural heritage. With Maria Laura Nappi, Sonia Capece, Mario Buono, *Multisensory Museum Models for Knowledge Transfer* (2022); with Sonia Capece, *The Perceptual and Dialogical Form of Desi-*

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Elena Cioffi is designer and PhD candidate in Environment, Design and Innovation at the University of Campania Luigi Vanvitelli, Engineering Department. Her research work involves design and science for the sustainable and innovative valorisation of wine production waste with a circular and systemic approach. Her studies for bachelor and master's degrees in Design for Innovation - Product Ecodesign have been carried out at the University of Campania Luigi Vanvitelli, including periods of study at Engineering in Industrial Design and Product Development of Malaga University. With Sonia Capece, Severina Pacifico, Mario Buono, *Design and Science for the Valorisation of Residues and By-products of the Wine Industry (2021); Lecture Notes in Networks and Systems (2021).*

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*Maria Claudia Coppola* is PhD student in Design at University of Florence, DIDA – Department of Architecture – and member of REI Design Lab – Reverse Engineering & Interaction Design – where she takes part in interdisciplinary design research activities. Digital culture enthusiast, her research develops at the intersection of future studies and policy sciences to foster public value through design. She is currently working with local municipalities and other research institutions to make a designerly contribution to contemporary multi-scale goals, like carbon neutrality and sustainable transition. With Margherita Tufarelli, *Mediated identities: values of fashion in digital culture* (2022); with Elisabetta Cianfanelli, Margherita Tufarelli, *Product Advanced Design: A cultural intermediation between knowledge and information* (2021).

*Enrica Cunico*, graduated in Product Design at the Iuav University of Venice, has worked as a product and graphic designer in metalworking and jewelry manufacturing companies. In 2018 he worked as a research fellow dealing with issues related to Industry 4.0 and the man-machine relationship in the industrial sector. In 2020 she was teaching assistant in the Fundamentals of product design course at Iuav and is currently a PhD student in Design Sciences at the Iuav University. With Pierfrancesco Califano, Giovanna Nichilò, Filippo Papa, Emilio Patuzzo, Raimonda Riccini, *Il museo-archivio virtuale del Vkhutemas: strumenti per un laboratorio di storia del design* (2022 – in press); with Luca Casarotto, Pietro Costa, *Design, space management and work to-*

*ols: enhancing human work in transition to Industry 4.0* (2021), with Luca Casarotto, *Design multidisciplinare nell'Industria 4.0. La progettazione come espressione ed integrazione di saperi e tecnologie* (2020).

*Daniela D'Avanzo* is PhD candidate in Design at Politecnico di Milano. She has worked for many years in the visual design field, carrying on several projects for national and international clients, never leaving aside her personal interest in the design research. Her work now focuses on wayfinding systems and her doctoral research is aimed at studying the orientation processes in general terms and, in particular, in urban public places. With Salvatore Zingale, Daniela D'Avanzo, *Far sentire il benessere dei luoghi – Progetti di orientamento come esperienza di immersività* (2021).

*Chiara De Angelis* is a designer and PhD candidate in Innovation Design at the University of Camerino. Her research thesis focuses on design for emergency, in particular it aims to investigate the resilience strategies that industrial design can implement during a deep crisis situation. Previously, she graduated with two honors degrees in Industrial and Environmental Design (2016), then in Computational Design (2020) from the University of Camerino. Simultaneously practicing as a junior designer and participating in international design research workshops, she has consolidated her interests towards issues related to process and product sustainability.

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Design for the MSc in Product and Event Design. As a multi-disciplinary designer and content creator, she is also involved in European projects on topics such as landscape tourism, in research support and in the production and strategy of audiovisual content. *Digital and Physical Margins Pre-Visions for New Interactions in the City in Progress* (2021); with Maria Carola Morozzo della Rocca, Alessandro Bertirotti, *Dalla limitazione dei gesti a nuove possibilità – Modalità di interazione touchless e opportunità* (2021), *Soluzioni touchless tra opportunità e inclusione. Tecnologia a distanza: dalle mani alla voce* (2022 – in press).

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*Marco D'urzo* is a PhD student at the Politecnico di Torino. Since 2018 he has been working on the topics of the Circular Economy, Social-Solidarity Economy and Social Cooperation, that are now his PhD research themes. He is also active in the social inclusion project “Costruire Bellezza”, where designers work with homeless people to foster empowerment and inclusion processes. With Nicolò Di Prima, *Una didattica circolare e “appropriata”: ambiente, tecnologia, società* (2021); with Cristian Campagnaro, *Social Cooperation as a Driver for a Social and Solidarity Focused Approach to the Circular Economy* (2021); with Cristian Campagnaro, Raffaele Passaro, “Design is one”, *un canone grafico del progetto di social design; 10 anni di ricerca-azione* (2021).

Dipl.-Des. (Univ.) *Moritz Elbert* MSc. is exhibition maker, independent curator and PhD student in TU Munich and Iuav of Venice. He graduated in Industrial Design, museography and museology at the Politecnico di Milano before moving to Lisbon where he established his atelier specialising in communication strategies for cultural institutions. After a post-graduation in curatorial practices, he begins to research and create exhibitions of design, architecture and contemporary art, expanding the communication practice to museums and cultural institutions. Since 2015 he lives and works between Munich (Germany) and Venice (Italy), developing digital strategies for cultural goods.

*Riccardo Fazi* is dramaturg and researcher in the field of performing arts, graduated in Anglo-American Languages and Literatures. He is the author of plays, performances, operas and radio programs. After working for four years in New York as assistant to Caden Manson (Big Art Group), in 2006 he founded the company Muta Imago with Claudia Sorace. Since then, he has created the dramaturgy and sound design of all the company's works, which are performed in Italy, Europe and the Middle East. For several years he has been combining his work in the field with a path of investigation and theoretical research on the role of dramaturgy in the performing arts. He teaches sound dramaturgy at the Faculty of Architecture of Sapienza University in Rome and at the DAMS in Lecce. He realizes audio-documentaries for Rai Radio Tre (*Antologia di S.*, 2015; *Le piccole storie*, 2018; *Sparizioni*, 2020) and for Internazionale (*Limoni*, 2021). He is currently working on his doctorate in contemporary dramaturgy.

*Fabrizio Formatì* received his bachelor's degrees in Mechanical Engineering in 2015 at the Second University of Naples and in Design for Innovation in 2018 at the University of Campania Luigi Vanvitelli. He is a PhD student at the Department DI (Department of Engineering) of the University of Campania Luigi Vanvitelli. In 2018 he started his PhD in Environment Design and Innovation at the University of Campania Luigi Vanvitelli in Aversa. His thesis focuses on the deve-



lopment of methods for the evaluation of human-robot collaboration applications in the manufacturing system of Industry 4.0 in order to improve the design of new collaborative robotic solutions.

*Stefano Gabbatore* graduated in 2015 in Design and Visual Communication with a thesis entitled *Archetype of a high performance steering wheel* under the supervision of prof. Claudio Germak. He then moved to Florence, where he continued his studies with a master's degree in Design and graduated with a thesis entitled *ErgoTech SmartMove*, supervised by prof. Francesca Tosi. With a background that over the years has turned and consolidated on ergonomics and user experience, he worked as a scholarship holder at the Politecnico di Torino, again under the guidance of prof. Germak, from 2018 to 2020 before starting his PhD in Management, Production and Design in November of the same year. *White X* (2021); with Xavier T. Ferrari, et al., *COMMON SPACES. University scenarios for the return to a-normality* (2021); with Lorenza Abbate, et al., *Here. Human Engagement in Robotics Experience* (2020).

*Antonello Garaguso* is PhD student at the School of Architecture and Design of Unicam, he is developing a thesis in the Innovation Design curriculum. After completing his master's degree, he started working in the field of communication and graphic design, collaborating in university projects as a scholarship holder and carrying out some support activities for teaching. His PhD research investigates the role of design in the design of digital archives as online devices for the valorisation and promotion of companies' cultural heritage. With Carlo Vinti, *Il design per la valorizzazione del patrimonio aziendale: il caso dei marchi storici Averna e Cynar del Gruppo Campari* (2020); *Symbiotic short circuits* (2019); with Carlo Vinti, *Averna. A Sicilian and Italian story* (2018).

*Luca Guerrini* is associate professor at Politecnico di Milano where he has worked since 1993. A trained urban designer, he has carried out applied research and projects in the field of transportation and envi-

ronmental design, interior and spatial design, design for cultural heritage. His studies focus on the concept and perception of space in the relationship between design and the arts. He teaches Interior Design and Arts and Languages of the Present at the School of Design. Since 1999 he has been a faculty member of several PhD programmes and is a former Director (2015-2017) of the PhD programme in Design. He is in charge of the joint Politecnico di Milano and Tsinghua University of Beijing degree programme in Design. Since 2018 he is Dean's delegate for admission test of the School of design. He has lectured on MA and PhD Courses in Italy and abroad. Design and architecture exhibition curator, he has acted as consultant to the National Museum of Architecture in Ferrara, Italy (2000-2006), and has taken part in national and international architecture competitions. Author of books, essays, and papers presented in national and international conferences. His current scientific production focuses on design pedagogy, and on design research methodologies. *Students at the centre of the action* (2020); *Towards the future. Insights on research and training* (2019); *New Hospitality: investigating the meaning of hybrid* (2019); with Alice Devecchi, *Empathy for Resilience* (2019); *Envisioning the future: report on a first year design-studio project* (2018); with Paolo Volonté, *Dialogues on Design. Notes on Doctoral Research in Design 2018* (2018).

*Alessandro Ianniello* is a product designer for Innovation and a PhD student in Design at Politecnico di Milano, where he also works as research fellow and tutor for bachelor and master's degree courses. He is part of the Environmental Design Multisensory Experience (EDME) Interdepartmental Laboratory, dealing with subjects such as extended realities and immersion. He has also been invited as a lecturer in various private universities. His research is focused on imagination, and on its role in fostering transformations towards responsible and just futures. He is also tackling topics such as sustainable and digital tourism, experience design and cultural heritage. With Giuseppe Amoruso, Stefania Palmieri, *Digital Strategy to Enhance Jordanian Tourism Sector: A Post Pandemic Gap Analysis* (2021 – under review); with

Stefania Palmieri, Mario Bisson, Alessio Righi, *A sport project and its future applications: how to implement speculative design to fulfil users needs* (2021); with Stefania Palmieri, Mario Bisson, *Environmental Design Multisensory Experience. Integrated space for simulation activities* (2020).

*Ilaria Lombardi* is graduated in Architecture with honor at the University of Campania Luigi Vanvitelli, qualified as an architect in 2020, Competent Technician in Environmental Acoustics since 2019 (EN-TECA). PhD student of Environment, Design and Innovation course of the XXXVI CYCLE, at the Department of Engineering of the University of Campania Luigi Vanvitelli, in the area of Industry 4.0 and human-machine interaction. Author of 24 publications in the field of applied acoustics. With Antonella Bevilaqua, Giuseppe Ciaburro, Gino Iannace, Amelia Trematerra, *Acoustic design of a new shell to be placed in the Roman amphitheater located in Santa Maria Capua Vetere* (2022); with Gino Iannace, Amelia Trematerra, *Effects of nightlife noise in a city center* (2021); with Silvana Sukaj, Giuseppe Ciaburro, Gino Iannace, Ilaria Lombardi, Amelia Trematerra, *The Acoustics of the Benevento Roman Theatre* (2021).

*Fabiana Marotta* is transdisciplinary designer and currently PhD candidate in Design at University of Naples Federico II (Architecture Department). Her current research focuses on the relevance of the political dimension in contemporary design, intercepting the complex relationships that exist between design and politics in order to build new theoretical frameworks in which to reconfigure the social and cultural dynamics of our time. *Diciotto storie per una controstoria della cultura tecnologica del progetto* (2022); with Marina Block and Massimo Perriccioli, *From Emergency to Emergence: re-think design approach in a transitionage* (2021).

*Elisa Matteucci* is PhD student and a design researcher at the Design for Sustainability Lab in the University of Florence. She has been part of the Design for Sustainability Lab research team since 2019 where

she is a designer and curator. Specifically, she works on several exhibitions in collaboration with MIDA (Mostra dell'Artigianato di Firenze) such as Craft 4.0, new perspectives of making. She mainly deals with communication design and data design. Actually she is working on research projects such TiAmbienta (Tecnologie Intelligenti per gli Ambienti di Vita), Prismamed (Piano Rifiuti e Scarti in Mare da pesca, acquacoltura e diporto nel Mediterraneo) and Robocoop (Realtà aumentata, storytelling evoluto, blockchain nel processo di innovazione di innovazione circolare e tecnologica delle cooperative sociali)

*Matilde Molari*, MSc in Systemic Design, is a PhD student at the Department of Environmental, Land and Infrastructure Engineering (DIATI) of the Politecnico di Torino (Italy). She carries out research in the Applied Ecology Group, dealing with vertical greenery in outdoor urban contexts. She investigates environmental and social impacts deriving from re-naturalization projects. With Mariangela Francesca Balsamo, *Ri-costruire una natura contemporanea* (2022); with Elena Comino, Laura Dominici, *City that embraces nature. Designing with vertical greenery* (2021).

*Giovanna Nichilò* is an architect and exhibition designer. Her professional experiences include works in Exhibition Design for scientific museums, fairs and events; Creative Industry; Digital Fabrication and Design of teaching activities for STEAM matters; Grant Research in Inclusive Museum Design at Laboratory of Ergonomics & Design at the University of Florence. Since 2020 she is a PhD student in Science of Design at Iuav University of Venice and investigates aspects of space-user interaction in Exhibition Design with a focus on spatial responsive and interactive applications in medical museums. With Gabriele Pontillo, *Site-Responsive. Critical of the Interactive Environments in Exhibition Design* (2022); with Francesca Tosi, Antonella Serra, Alessia Brischetto, *Asking Users. Questionnaires as Indirect Observation Tools in Human-Centred Design Approach* (2021).

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sign and MSc in Ecodesign at Politecnico di Torino. She complements her research work with the design of honest, human and environmentally friendly products and services, also achieving international recognition and awards. Her PhD research focuses on the definition and development of new products and strategies, suggested by design approach, to enhance cultural value and local excellence, with particular reference to the valorisation of the identity of Politecnico di Torino through merchandising. With Doriana Dal Palù, Beatrice Lerma, Marco Bozzola, *Il wayfinding nei luoghi della cultura. Un progetto per il Castello del Valentino* (2020); with Irene Caputo, Marco Bozzola, *Design and Cultural Sites: new signage methods and languages for fruition, accessibility and storytelling* (2020).

*Angela Denise Peri*, naval architect, yacht and ship designer. PhD candidate in Naval and Nautical Design, University of Genoa. Her MSc thesis, awarded with honours, is focused on the project of an electric hybrid solar catamaran for passenger transport, with particular attention to issues related to sustainability and accessibility by people with physical disabilities and sensory-perceptual alterations. Her research activity is focused on the definition of design guidelines applicable to cruise ships in the post Covid-19 era, with reference to smart materials and contactless technologies. She is paper author and speaker at international conferences and teacher of a professional education course dedicated to the same topics. She holds management training seminars and is co-lecturer at the courses of Construction Science, Psychology for Design and workshops dedicated to the project of cruise ship units and electric vehicles, one of which is held together with Beijing University of Chemical Technology.

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*lity as drivers to resilience in sustainable design research* (2021); with Giuseppe Mincoelli, Silvia Imbesi, *How Co-design Leads Mobility Innovation Towards a More Inclusive and Senior-Friendly Transportation System* (2021); with Giuseppe Mincoelli, Michele Marchi, Silvia Imbesi, Gian Andrea Giacobone, *Cittadinanza smart thing: Smart objects al servizio di città più attive e inclusive* (2021).

*Valeria Piras* is a Design PhD student at the University of Genoa. Interested in the constant relationship between design and politics, her research investigates the role of the current design educational context in relation to actual political and social issues, looking at it through the lens of feminist philosophy. *Intersectionality in Visual Design Education* (2021); *CAPS LOCK. Una panoramica sull'ultimo libro di Ruben Pater* (2021); *Discomfort in Visuality* (2021).

*Barbara Pizzicato* is currently a PhD student in Environment, Design and Innovation at the University of Campania Luigi Vanvitelli. She took a Bachelor Degree in Design and Communication at Politecnico di Torino and a Master's Degree in Design for Innovation (curriculum Eco-fashion) at Luigi Vanvitelli. Her field of investigation concerns circular and systemic design with a strong focus on innovative processes and technologies for circularity in the textile field. Among her latest publications: with Maria Antonietta Sbordone, et al., *0\_Textile. A Design Research applying Circular Economy in the textile field; An Ideal Triangulation in Fashion and Textile: Industry, Academia and Users; Fashion Confronting Unrelated Sectors: The Ideal Model of Manufacturing Symbiosis Between Industrial Systems* (2021).

*Gabriele Pontillo* is an Italian product designer. In 2019 he obtained a Doctoral Research Fellowship in Environment, Design and Innovation at the University of Campania Luigi Vanvitelli. Main focus of his line of research are parametric design, medical design, and advanced manufacturing – knowledge acquired during his academic path. With Carla Langella, *Fluctuating Intelligence: Bioinspired 3D Printed Design on Textile* (2021); with Carla Langella, Roberta Angari, *Intersection*

*Between Design and Science in the Mediterranean Food Landscape* (2021).

*Raimonda Riccini* is full professor at the Iuav University of Venice. She was coordinator of the PhD in Design Sciences (2012-21) and Deputy Director of the Doctoral School (2016-21). In 2013 she conceived and directed *Frid. Fare ricerca in design*, the national forum of PhDs in design. Hers are the project of the Bembo LS Writing Laboratory and the Bembo OE Editorial House, of which she is editorial director. Co-founder and president (2014-18) of the Italian Association of Design Historians, she directed the journal “AIS Design. History and Research” (2013-21). From 2021 she is president of SID Italian Design Society. (Edit by) Tomás Maldonado, *La speranza progettuale. Ambiente e società*, 2022; *I linguaggi dell’interazione: Olivetti e la Scuola di Ulm*, 2021; *Design e innovazione. Una visione critica in tempi di incertezza*, 2021; (edit by) Tomás Maldonado, *Bauhaus*, 2019; (edit by) Frid 2017. *Sul metodo/Sui metodi. Esplorazioni per le identità del design*, 2018; *Gli oggetti della letteratura: il design tra racconto e immagine*, 2017.

*Davide Romanella* is architect and PhD candidate in Sustainable Urban Planning at the International School of Advanced Studies in the University of Camerino. He is a member of the EcCoItaly company where he has developed a qualified profile on the management of competitive issues and projects in the sector of urban redevelopment and regeneration of open spaces in the technological and environmental fields. He carries out a doctoral research entitled *Post-vernacular architecture, territorial technologies for a distant future* focused on the sustainable aspects of architecture, characterized by the concept of “circularity”. *Light* (2021); with Federica Ottone, *Una “Nuova Archeologia” per la Ricostruzione dei Paesaggi Colpiti dal Sisma* (2020); with Roberta Cocci Grifoni, Anna Bonvini, Graziano Enzo Marchesani, Paola Tassetti, *Nuovo Rinascimento* (2020).

*Beatrice Rossato* is an Italian fashion designer. She is a PhD student in Design at the Design Department of Politecnico di Milano. Her research focuses on the relationship between jewellery design and digital

technologies, particularly on the dematerialization and virtualization of body equipment and on learning tools to design digital accessories. With Alba Cappellieri, Livia Tenuta, Susanna Testa, *Digital Filters: A New Way to E-Wear Jewellery* (2021); with Livia Tenuta, Susanna Testa, *An Example of Innovative University Teaching and Learning: the Fashion-Tech Model of Integration* (2021).

*Jing Ruan* is a Design PhD student at the University of Florence. Her research explores sustainable and creative design solutions for enhancing the competitiveness of local agriculture based on innovation projects in China and Italy. Since 2019 she has served as deputy secretary-general of Wuhan Industry Association and Design Committee of Hubei Packaging Federation, responsible for organizing exhibitions, competitions, project cooperation. She has been a teacher in the Visual Communication Design Department of Wuhan Technology and Business University from 2005 to 2018. *Research on value conversion from agricultural products to creative products* (2019); *To explore the Italian city of creative visual design* (2017); *Personality vivid bottle and jar – on the composition of the beauty of Morandi painting* (2015).

*Manuel Scortichini* is PhD student in Innovation Design at the International School of Advanced Studies, University of Camerino. Since 2018 he has been collaborating in teaching as tutor in university courses, as correlator of three-year theses and in the organization of exhibitions, conferences and educational seminars at the School of Architecture and Design Eduardo Vittoria in Ascoli Piceno. His PhD research explores the relationship between new digital technologies and communication systems in museums, with particular attention to new strategies for interactive exhibition design. With Enrica Lovaglio, *Guerrilla art in the city: Urban and social revitalization* (2021); with Enrica Lovaglio, *La città come opificio sperimentale* (2021); with Giuseppe Losco, Davide Paciotti, Carlo Vinti, *The fifth dimension of interaction design: conversation with Gillian Crampton Smith and Alessandro Maserdotti* (2021).



*Elettra Scotucci* is visual communication and graphic designer and PhD student at Sapienza University of Rome. Her main research topics are typography and graphic design history, and the relationship between design and new craft in the particular field of the contemporary production of wooden typefaces for letterpress printing. Together with his PhD colleague Andrea Vendetti, she runs a letterpress printing studio in Rome, Slab, which is also a key spot for historical researches, experimentation and educational projects. Currently she is Teaching Assistant to professor Daniele Capo in the Type Design course, both in the English and Italian curricula, at the DCVM master's degree, at Sapienza University. With Andrea Vendetti, *United in isolation. An online letterpress festival* (2021).

*Nicoletta Sorrentino* graduated in Architecture in 2014 from the University of Genoa. From 2017 she collaborates, first as Cultore della Materia and then as assistant, to the courses of Design History and Fundamentals of Representation for Industrial Design in the Department of Architecture and Design of the same university. Since 2019, she has been enrolled in the Phd Course in Sciences and Technologies of the Sea, developing her thesis on graphics and communication onboard large passenger boats. Among her most recent publications, *Communication, orientation and wayfinding aboard great ships: towards an integrated and user-centred system* (2020); *The Design of Spaces for Young Children and Preschool in Emergency* (2019); with Luisa Chimenz, *For your pleasure only* (2018) and *Known for Unknown. Images from the Past for the Present Future* (2017). She collaborated on research for the book *Handmade in Italy* by Claudio Gambardella (2020).

*Giovanna Tagliasco* is designer and PhD student in Design at the Department of Architecture and Design of the University of Genoa, Italy. She is researching the effectiveness of tools in design and service design projects. She works on how to visualize processes. *Service design: la co-progettazione nella ricerca che sconfini. Confini e contesti* (2021); with Marialuisa Taddei, *Zoom in e zoom out sui comportamenti: risorse di progetto* (2020); “*Graphicizing*” *Service Design* (2020).

*Margherita Vacca* is architect, PhD student in Sustainability and Innovation for the Design of the Built Environment and Product System (curriculum Design) at the University of Florence. Her research aims to reflect on the complex system of social realities belonging to the Third sector system, trying to understand how design can exploit its connective and maieutic capacity to promote the exchange and acquisition of necessary skills for the challenges of future scenarios. With Fabio Ballerini, *La cura del Design: nuove forme di inclusione socio-professionale dei migranti. Processi di codesign per la valorizzazione del dialogo interculturale* (2021); with Marco Marseglia, Francesco Cantini, Elisa Matteucci, Alessio Tanzini, Giulia Pistoressi, *Design con il Mediterraneo. Nuovi metabolismi materiali e immateriali, intrecciando traiettorie tra saperi, miti, mare e racconti* (2022); with Irene Fiesoli, Fabio Ballerini, *Togetherness. Design con le imprese sociali* (2022).

*Angelica Vandi* is PhD Student in Design and MSc in Design for the Fashion System at Politecnico di Milano. During her career, she took part in the Design Management joint program with Jefferson University, Philadelphia. As a research fellow, she followed the development of the “DigiMood for CCIs” European founded project. Her PhD research focuses on rethinking the ways of modelling, preserving and transferring fashion cultural reservoir making use of new media technologies, understanding how the digital sphere could be employed to augment the tangible and intangible value of fashion heritage. *Fashion Design Education Towards Twin Transition. Developing multidisciplinary skills for future professionals* (2022); with Paola Bertola, *Global Fashion Conference* (2021); with Paola Bertola, *Designing Interactive Narratives for the Fashion System. MOOC and blended learning in a transdisciplinary design module* (2021); with Ilaria Mariani, *Head '21, 7th Educational Conference on Higher Education Advances*.