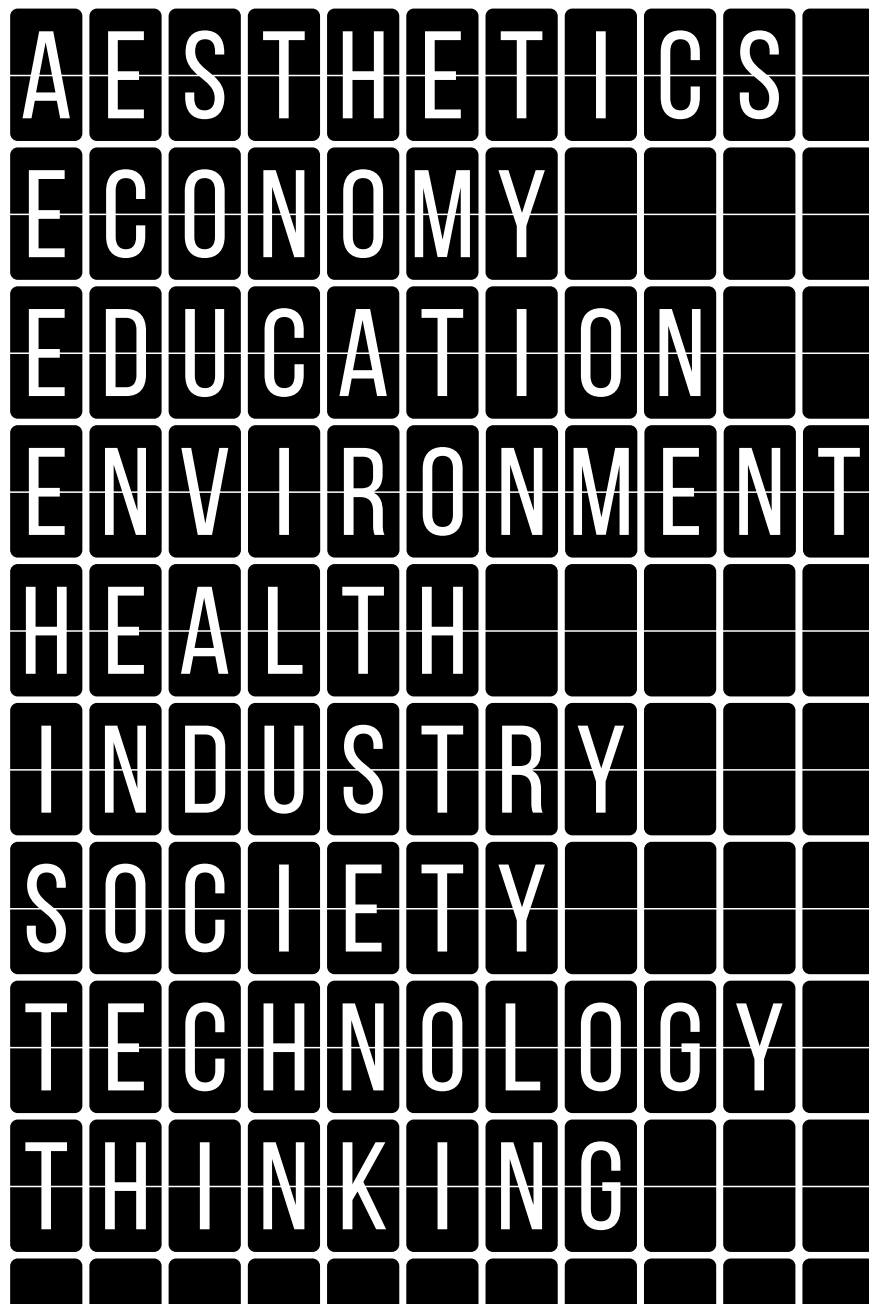


# DESIGN FOR NEXT

Proceedings of the 12th  
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*supplement of The Design Journal*

*edited by*  
Loredana Di Lucchio, Lorenzo Imbesi, Paul Atkinson

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Lorenzo Imbesi,

Paul Atkinson

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# Foreword

It is my great pleasure to preface these proceedings of the 12th European Academy of Design conference, hosted by the Faculty of Architecture at Sapienza University over three days of a very warm April in 2017. The location could not have been more suitable: the largest and oldest University in Europe with a strong reputation for high-level academic endeavour, on the edge of one of the most beautiful public parks in central Rome.

I would like to take this opportunity to express my gratitude to the joint Chairs of the conference, Professor Lorenzo Imbesi and Associate Professor Loredana Di Lucchio, who were ably supported by Conference Manager Angela Giambattista and Communication and Media Manager Viktor Malakucz, and a whole team of dedicated student helpers too numerous to mention by name. Despite its complexity, the conference ran smoothly, and all concerned seemed to enjoy the experience.

Design for Next was one of the busiest EAD conferences to date, with 550 delegates attending over the three days. In total, 379 full papers were presented across nine parallel tracks, along with 22 poster presentations, and 8 workshop events. The six keynote speakers gave thought-provoking and inspirational presentations, and set the tone for in-depth academic debate centred on the forward-thinking topics forming the thematic strands of the conference.

The results of the event are collected here to form a lasting record of an amazing conference. The range of topics covered and the variety of issues debated is a wonder to behold. I hope they prove of interest and value to everyone.

*Paul Atkinson*

*President of the European Academy of Design*

# Introduction: Designing a Design Conference

12th EAD - European Academy of Design Conference, Design for Next

*"If others can see it as I have seen it, then it may be called a vision rather than a dream."*

W. Morris, News from Nowhere (1890)

It has been a honor to welcome the EAD community in the city of Rome in Italy, to host its 12th International Conference in 2017 at Sapienza University. The program fostered discussion among designers, academics and experts about the articulated scenario of contemporary design and its perspectives, with the intent to nurture diversity and interdisciplinarity.

'Design for Next...' is the title and topic where 'Next' implies the concept of proximity as well of destination, related to time and physical space. Contemporary shifts in society, technology and production are reframing design processes, approaches and tools. While the design community is questioning about the next stage of innovation, design is evolving as a wide open field with many applications and meanings. More than ever it is important to investigate through design research and practice in order to tackle the societal, technological and industrial challenges of the future.

Thanks to the contribution of professionals, educators and researchers we wanted to prompt reflection on the future fields of investigation in Design, as well to discover and to connect the spaces and the people who share common interests in Design research.

When the call for papers started, we launched two important questions: what is Design for Next? And what is the 'Next' focus of Design? We invited the authors to reflect on the different nature of Design for 'Next': Aesthetics, Education, Economy, Environment, Health, Industry, Society, Technology, Thinking... Each track focused around a keyword to engage and tackle the different fields of Design research and practice. Together, in this process, we have been drawing the big picture of Next Design.

The conference followed a long double blind peer review process with the support of 28 track chairs and beyond 100 reviewers selecting the ultimate research in design with scientific rigor, to end up with the following conference proceedings and a special issue of the Design Journal with a selection of the best papers. During the three days of the Conference, we reached an incredible number of attendees coming from any region in the world and presenting in nine parallel tracks. Academics, students, professionals, companies and industry engaged an interdisciplinary debate and developed the opportunity to share ideas and research experiences within the EAD Community with plenaries, workshops, roundtables, seminars, parallel sessions, poster sessions and of course activities for socializing and networking.

As well, eight international leading thinkers on Design acted as keynote speakers and introduced a range of different ways of approaching the next future. The plenary sessions were organized to have both contributions in design experimentation and practice, and at the same time a theoretical reflection to foster design thinking, also sharing global and local perspectives. Derrick De Kerckhove described his personal vision of next in the field of Design, society and technology; Maurizio Montalti (Officina Corpuscoli) displayed his exploration on the discipline of design, aiming to investigate and reflect upon contemporary culture, thereby creating new opportunities and visions for both the creative industry and a broader social spectrum; Gavin Munro presented how his practice (Full Grown) challenges the way we create products, as well as how we see the artifacts surrounding ourselves, often replacing the natural environment; Nicolas Nova (Geneva School of Art) shared his approach on reflecting on the next future, practicing research on the new media practices, design

fiction and speculative design as co-founder of 'The Near Future Laboratory', a research organization based in Europe and California; Anna Pellizzari (Executive Director at Material ConneXion Italia) is one of the most inspiring women in the Italian design scenario and she focused on the importance of innovative materials for the next design generation; Arturo Vittori (Architecture and Vision, Warka Water) displayed how merging innovative technology together with ancient tradition can result in projects on the edge between Art and Science addressing the most urgent needs of our society. Additionally, we hosted two special guests: Tonino Paris, who is the founder of the School of Design at Sapienza in Rome, and who introduced a concept of design related to the material culture of the places, and Ezio Manzini presented design for democracy as the next challenge for our community.

Among the activities, the conference featured the project 'Design for Next Lazio', which is an international project addressed to the local companies operating in Design. The initiative aimed to connect Business and Design in the Lazio Region directly involving Companies, Professionals, Associations and Schools of design. That's why the project is realized in partnership with Sapienza University of Rome (Department of Planning, Design, Architectural Technology), ISIA Roma Design (Istituto Superiore per le Industrie Artistiche), IED (European Design Institute), QDU (Quasar Design University), RUFA (Rome University of Fine Arts), ADI (Territorial delegation of ADI Association for Industrial Design), OAPPCR (Ordine degli Architetti, Pianificatori, Paesaggisti, e Conservatori di Roma) and Italian Academy of Arts Fashion Design. The final goal of 'Design for Net Lazio' is to create a shared path of co-design to develop new industrial processes and products. Last step of the initiative was the exposition of all projects and the awarding of the best ones. The initiative has been coordinated by the Lazio Region and Lazio Innova, the regional agency for innovation supporting both enterprises and the local public authorities by providing services for startups and biz development, venture capital, internationalization services, financial and valorization of regional clusters and regional champions. Its task is to enhance Lazio as a Region of Innovation with an international dimension and promote technology transfer and the innovation-competitiveness-internationalization process, to enter the international value chain. In order to focus on strategic topics, the initiative has been taking into account three thematic areas which featured three roundtables, with the participation of experts, academics, professionals, companies and students: Industry 4.0, Design for Smart City and Cultural Heritage.

Again, we have been honored to welcome the 12th EAD conference at Sapienza University of Rome: our academic institution was founded in 1303 by Pope Boniface VIII in Rome, with its 115,000 students and 4.000 professors and researchers. It is one of the oldest universities in the world and the largest in Europe, a top performer in international university rankings thanks to the 63 Departments organized in 11 Faculties that drive high levels of excellence in several fields of knowledge. In particular, our Department, "Planning, Design, Technology of architecture (PDa)", manages the Research and the Didactic activities in the field of Design in Sapienza. The Conference was hosted in the historical venue of the Faculty of Architecture in Valle Giulia, located at the border of Villa Borghese, the greatest public park in the Centre of Rome.

Ultimately looking into the massive selection of papers in the proceedings, we believe the conference helped sharing and networking within our international design community, so giving a contribution to the progress of research and knowledge. We wish to nurture 'Design for Next' and then this book should envision where we are going.

*Loredana Di Lucchio, Lorenzo Imbesi*  
*Co-Chairs of the Conference*

# Keynote speakers

**Nicolas Nova** is an ethnographer and design researcher, working both as a Professor at the Geneva School of Arts and Design (HEAD – Genève) and as co-founder of The Near Future Laboratory, a research organization based in Europe and California. His work focuses on observing and documenting digital and new media practices, as well as creating design fictions, i.e. speculative designed objects exploring the experiences of near future. He holds a PhD in Human-Computer Interaction from the Swiss Institute of Technology (EPFL, Switzerland) and was previously a visiting scholar at Art Center College of Design (Pasadena), ENSCI - Les Ateliers (Paris) and Politecnico di Milano.

**Maurizio Montalti.** Strongly rooted in a collaborative, research-based and experimental approach, Maurizio Montalti's work tends toward the exploration of the design discipline, aiming to investigate and reflect upon contemporary culture, thereby creating new opportunities and visions for both the creative industry and the broader social spectrum. Maurizio's practice, "Officina Corpuscoli", seeks to reveal unorthodox relationships among existing paradigms, aiming to promote the growth of critical thinking, through the development and materialisation of tangible alternatives. Maurizio holds a Master in Industrial Engineering from the University of Bologna (IT) as well as a Master in Conceptual Design in Context from the Design Academy Eindhoven (NL). His work has been widely shown in multiple museums, exhibitions and festivals, both nationally and internationally.

**Gavin Munro** is an artist and designer from Matlock, Derbyshire. Gavin has lent his hand to a number of different skills, from furniture to houses, and everything in between. Inspired by a childhood experience with a bonsai tree, and constantly encouraged throughout his life, Gavin finally made growing furniture his full time profession. He now lives in Wirksworth, Derbyshire, with his loving wife Alice, and their full-time boss, Lina, the lurcher.

**Arturo Vittori** is an Italian Artist, Architect and a Designer. His work is internationally known for merging cutting edge technologies together with ancient traditions resulting in projects on the edge between Art and Science that answer our society's most urgent needs. After graduating he gained experiences collaborating with Santiago Calatrava, Jean Nouvel, Future Systems, Anish Kapoor. He was Manager of Aircraft Cabin Design at Airbus and involved in Yachts and Cruisers design at Francis Design. Vittori, since 2002, is directing the research and design studio Architecture and Vision, Italy, he is also the CEO of the american NGO Warka Water Inc.

**Derrick De Kerckhove** (born 1944) is the author of *The Skin of Culture* and *Connected Intelligence* and Professor in the Department of French at the University of Toronto, Canada. He was the Director of the McLuhan Program in Culture and Technology from 1983 until 2008. In January 2007, he returned to Italy for the project and Fellowship "Rientro dei cervelli", in the Faculty of Sociology at the University of Naples Federico II where he teaches "Sociologia della cultura digitale" and "Marketing e nuovi media". He was invited to return to the Library of Congress for another engagement in the Spring of 2008. He is research supervisor for the PhD Planetary Collegium M-node directed by Francesco Monico. Since 2008 he oversees global art projects for Solstizio, co-founded by the artist Giuseppe Stampone.

**Anna Pellizzari** is the Executive Director at Material ConneXion Italia, is an expert on materials design, with more than 25 year of experience in the field. She has attended short courses at Domus Academy in Milan, Central St Martins of London, and the Fashion Institute of Technology in New York and worked in graphic design, textiles, design of materials, CMF. Her collaborations include several major brands in the sectors of sporting goods, automotive, interiors, packaging.

# About



**SAPIENZA**  
UNIVERSITÀ DI ROMA

**Sapienza University of Rome**, which was founded in 1303 by Pope Boniface VIII in Rome, with its 115,000 students and 4.000 professors and researchers, is one of the oldest universities in the world and a top performer in international university rankings thanks to the 63 Departments organized in 11 Faculties that drive high levels of excellence in several fields of knowledge.

The Department of Planning, Design, Technology of architecture (PDTa), within the Faculty of Architecture, manages the Research and Didactic activities in the field of Design in Sapienza.

The Design Degrees in Sapienza are:

- the Bachelor Degree in Industrial Design (taught in Italian);
- the Master of Science in Design and Visual and Multimedia Communication (taught in Italian);
- the Master of Science in Product Design (taught in English).

Moreover, an interdisciplinary PhD Program in 'Planning, Design, Technology of architecture' is managed by the Department PDTa offering 12 positions per year.

The Design Research is supported by two University Laboratories:

- Sapienza Design Factory (SDF), focused on Product Design for Industry 4.0;
- Photomedialab, focused on Communication Design.

The  
**European**  
of **Academy**  
**Design**

The **European Academy of Design (EAD)** was formed to promote the publication and dissemination of research in design through conferences hosted by different educational institutions in Europe and the publication of proceedings, newsletters and a journal. It was also formed to improve European wide research collaboration and dissemination.

The EAD was formed in 1994, to improve European-wide research collaboration and dissemination and to promote the publication and dissemination of design research.

The Academy is headed by a committee of leading academics from across Europe, as well as from North America and Australia.

To date, the Academy has hosted twelve international conferences.

Since 1997, The Design Journal had been published in association with the European Academy of Design. This refereed journal, published four times each year, provides a platform for the dissemination of design thinking and research. It aims to encourage discussion across traditional boundaries between practice and theory, and between disciplines defined by working media, materials and areas of application.

The Academy also publishes the proceedings of its conferences.

Membership is open to all of those interested in design research, whether academic, student or practitioner.

# People

## Conference Chairs

### **Loredana Di Lucchio**

Associate Professor in Design,  
Sapienza University of Rome

### **Lorenzo Imbesi**

Full Professor in Design,  
Sapienza University of Rome

## Scientific Committee

### **Paul Atkinson**

Designer, Professor of Design & Design  
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### **Rachel Cooper**

Distinguished Professor of Design  
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(UK), Director of ImaginationLancaster

### **Donald Norman**

Director of Design Lab, University of California  
San Diego (USA)

### **Tonino Paris**

Architect, Full Professor of Design, Sapienza  
University of Rome (Italy) and Distinguished  
Professor, East China Normal University of  
Shanghai (China)

### **Rodrigo Rodriguez**

LL.M., Chairman of Forza Projects Ltd,  
Chairman of Material Connexion Italia Srl,  
Honorary President of U.E.A. - Union  
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### **Bruce Sterling**

Writer, Speaker, Futurist, Design Instructor

## Conference Managers

### **Angela Giambattista**

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We are very thankful to the international scientific community for its contribution to the double-blind peer review process.

Yoko Akama, Paul Atkinson, Tefvik Balcioglu, Silvia Barbero, Elisa Bertolotti, Alessandro Biamonti, Spyros Bofylatos, Gustavo Borba, Vasco Branco, Clare Brass, Sam Bucolo, Barbara Camocini, Angus Donald Campbell, Daria Cantu', Elena Caratti, Cabirio Cautela, Flaviano Celaschi, Manuela Celi, Medardo Chiapponi, Anne Chick, Eun Ji Cho, Carla Cipolla, Chiara Colombi, Sara Colombo, Marta Corubolo, Claudia De Giorgi, Chiara Del Gaudio, Alessandro Deserti, Antonino Di Raimo, Alpay Er, Ozlem Er, Mark Evans, Martyn Evans, Raffaella Fagnoni, Priscila Farias, Silvia Deborah Ferraris, Venere Ferraro, Elena Formia, Teresa Franqueira, Karine Freire, Maria Luisa Galbiati, Laura Galluzzo, Giulia Gerosa, Luca Guerrini, Francesco E. Guida, Ashley Hall, Michael Hann, Christoph Holliger, Stefan Holmlid, Hans Kaspar Hugentobler, Salvatore Iaconesi, Ali O. Ilhan, Roberto Iñiguez Flores, Birgit Helene Jevnaker, Wolfgang Jonas, Ayelet Karmon, John Knight, Ilpo Koskinen, Tore Kristensen, Lia Krucken, Yanki Lee, Beatrice Lerma, Giuseppe Lotti, Alvisè Mattozzi, Arianna Mazzeo, Mike McAuley, Catherine McDermott, Massimo Menichinelli, Giuseppe Mincolelli, Juan Claudio Monterrubio Soto, Nicola Morelli, Francesca Murialdo, Marina Parente, Silvia Pericu, Pier Paolo Peruccio, Margherita Pillan, Francesca Piredda, Annabel Pretty, Kuno Prey, Giovanni Profeta, Lucia Rampino, Liat Rogel, Valentina Rognoli, Fatina Saikaly, Maria Antonietta Sbordone, Paolo Tamborrini, Francesca Tosi, Paola Trapani, Raffaella Trocchianesi, Federica Vacca, Louise Valentine, Francesca Valsecchi, Artemis Yagou, Salvatore Zingale, Carola Zwick

## Track Ambassadors

Students of the Master of Science in Product Design at Sapienza University of Rome:

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Giulia Aliffi  
John Alongi  
Hoda Aman  
Eugenia Maria Canepone  
Elena Cardinali  
Si Chen  
Silvia Cosentino  
Silvia Di Anselmo  
Agyei Enoch  
Sevin Gundes  
Xiao Han  
Nahid Leo  
Maryam Mahdizadeh  
Francesco Maietich  
Amalia Nadita  
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Tiziana Pace  
Carmen Rotondi  
Lorenzo Santini  
Amir Shoushtari  
Alexander Schurig  
Sara Testa  
Colin George Thomas  
Margarita Velandia  
Vu Viet  
Xu Zirui

# DESIGN FOR NEXT AESTHETICS

Postmodernists dismantled Modernist construction in the name of difference. Then what's next? Should we search for a new coherent set of aesthetic rules to shape the artificial world or keep on emphasizing plurality? And where to find new foundations? In the messy world-wide-web; in the algid beauty of new technology; in the multifaceted research of the arts; in the bottom-up process of social design; in the makers movement? Or in a totally dematerialized world? And ultimately, we might ask: “are designers still in charge of the whole process”?

You can find the track papers from page S1234 to page S2345.

## Track Chairs

**Luca Guerrini**

Associate Professor in Design, Politecnico di Milano (Italy)

**Louise Valentine**

Senior Lecturer, University of Dundee (UK)



# DESIGN FOR NEXT ECONOMY ■■■■

The quest for improved performances, efficiency and effectiveness of products and services is leading to the growth of design both in the commercial and in the public sector, and to diverse attempts to assess its impact. How can design approaches, processes and tools be adopted in established and new domains of application to generate higher social and economic value? And how can it be measured? The track seeks to explore relationships between design and economy, assuming multiple perspectives and going beyond the traditional economic aspects of the design process and of its outputs.

You can find the track papers from page S1234 to page S2345.

## Track Chairs

### **Alessandro Deserti**

Full Professor in Design, Politecnico di Milano (Italy)

### **Alpay Er**

Professor in Industrial Design, Ozyegin University (OzU)/Istanbul Institute of Design (Turkey)

### **Tore Kristensen**

Professor With Special Responsibilities in Marketing, CBS Copenhagen Business School (Denmark)

# DESIGN FOR NEXT EDUCATION ■ ■

Along with the shifts in research and practice, education in design is changing and expanding its limits, approaches and tools, while accompanying the student and future professional into an evolutionary personal path to develop the design skills and language. The track seeks to understand the next future evolution of Design Education and its tools, approaches, pedagogy, methodology, philosophy and practice. While collecting and mapping different points of view, the track seeks for alternative and established ways of teaching, emerging technology and tools, the role of critique and hands-on in pedagogy, the use of material and immaterial scenarios, ethnography and participatory approaches, and more.

You can find the track papers from page S1234 to page S2345.

## Track Chairs

### **Claudia De Giorgi**

Associate Professor in Design, Politecnico di Torino (Italy)

### **Kuno Prey**

Full Professor in Design, Free University of Bozen-Bolzano (Italy)

### **Carola Zwick**

Professor in Design, Weissensee Academy of Art, Berlin (Germany)

# DESIGN FOR NEXT ENVIRONMENT

The complexity of sustainability issues (environmental, social and cultural) can not be fully described by rules and universally valid numeric parameters. In this scenario characterized by partial vagueness in design, the correct communication of sustainability content plays an important role in the stimulation of good behaviours and in giving meaning to things. The track investigates the next future evolution of the relationship between Design and Sustainability as well as the tools, questions, approaches and methods that will allow us to combine more wisely complexity, simplicity, meaningfulness and effectiveness, along with the design processes.

You can find the track papers from page S1234 to page S2345.

## Track Chair

**Giuseppe Lotti**

Associate Professor in Design, Università di Firenze (Italy)

# DESIGN FOR NEXT HEALTH

Health is our greatest good. While the relationship between the health of humans and our planet is becoming more interrelated, our health system is facing increasing complexity. Emerging technologies empower people to become protagonists of their own health for better life, improving the importance of well-designed environments, products, services, processes and policies. From hacking and making and from networks to domestic landscapes, the track seeks to encourage fundamental debates and trans-disciplinary studies, and to renew approaches, tools, and visions from the future.

You can find the track papers from page S1234 to page S2345.

## Track Chairs

### **Medardo Chiapponi**

Full Professor in Design, IUAV (Italy)

### **Raffaella Fagnoni**

Associate Professor in Design, Università di Genova (Italy)

### **Hans Kaspar Hugentobler**

Lecturer in Strategic Design Planning and Service Innovation, Lucerne University of Applied Sciences and Arts (Switzerland)

### **Francesca Tosi**

Full Professor in Design, University of Florence, President of the Italian Society of Ergonomics and Human Factors

# DESIGN FOR NEXT INDUSTRY

The so-called Industry 4.0 observation produces interference effects that go from manufacturable to digital, from B2B Business To Business (the factory) to B2C Business To Consumer (the market). Consequences of this new industry influence tools and processes of equipment production and of manufacturing networks. Influences are also seen in individual and city life, and in manmade environments. Design has a wide action area referring to industrial equipment (the Internet of Things), cloud services and learning artificial intelligence exploitation (the Internet of Behaviours).

You can find the track papers from page S1234 to page S2345.

## Track Chairs

### **Flaviano Celaschi**

Full Professor in Design, Università degli Studi di Bologna (Italy)

### **Christoph Holliger**

Professor of Physics and (by courtesy) the Arts, University of Applied Sciences and Arts Northwestern Switzerland

### **Roberto Iniguez Flores**

Professor in Design, Tecnológico de Monterrey, Campus Guadalajara (Mexico)

# DESIGN FOR NEXT SOCIETY ■■■■

We live in a time of accelerated change, where innovation forces exceed any existing mental, logical and organizational frames. We explore new territories for the organization of societies, economy and transformation of production and consumption patterns. New initiatives are emerging, that are activating citizens, generating new directions for social innovation and developing services that support such change. This track invites submissions on design thinking in participatory and systemic perspectives that reflect how the combination of technology, design and new forms of social organization are activating new mechanisms of sharing knowledge and experiences, defending well-tried commons.

You can find the track papers from page S1234 to page S2345.

## Track Chairs

### **Wolfgang Jonas**

Braunschweig University of Art, Germany

### **Nicola Morelli**

Professor MSO, Department of Architecture, Design and Media Technology, Aalborg University, Denmark

### **Maria Antonietta Sbordone**

Researcher Professor in Design, Seconda Università di Napoli

# DESIGN FOR NEXT TECHNOLOGY

One of the main roles of design research and practice has been to humanize technology, translating it into products or services usable by humans. Digital technology and cultures have enabled design to include less material aspects within its field of action. Digital transformation is changing our world and design is one of the main drivers. This track will explore how next technology scenarios will change design research and practice; to understand how tools, methods and the purposes of design will evolve; and which opportunities will develop for creating new bridges across different trends of technological advancements, and with arts, sciences and society.

You can find the track papers from page S1234 to page S2345.

## Track Chairs

### **Paul Atkinson**

Professor of Design & Design History, Sheffield Hallam University (UK)

### **Salvatore Iaconesi**

Professor of Interaction Design at ISIA (Florence), CEO and CRO of Nefula (Italy)

### **Giuseppe Mincoelli**

Associate Professor in Design, Università di Ferrara (Italy)

# DESIGN FOR NEXT THINKING

This track invites you to explore, debate and leverage our understanding of design and designing for next thinking. The term "next" can be grounded in future/present, as well as past endeavours and ideas, and "thinking" refers to fundamental thinking and reflections in design and designing that may encompass also groups and collaborative action. We wish to invite contributions from many kinds of practice based and philosophical viewpoints as well as addressing and reflecting on thinking practices. This track aims to open a debate on the role also of intangibles and thinking activities in the next design scenarios. What will be the role of new or "other" original thinking in a design process? How to educate innovative as well as solid and coherent thinking for designing products, services and systems? The overall goal is to stimulate an improved discussion on the relationship between design and thinking focusing on some experiences and new future challenges.

You can find the track papers from page S1234 to page S2345.

## Track Chairs

### **Martyn Evans**

Professor of Design, Manchester School of Art, Manchester Metropolitan University, UK

### **Birgit Helene Jevnaker**

Professor in Innovation and Economic Organisation, Norwegian Business School (Norway)

### **Pier Paolo Peruccio**

Associate Professor in Design, Politecnico di Torino (Italy)



# Design for next Challenges.

Loredana Di Lucchio

PhD, Associate Professor, Sapienza University of Rome, Italy  
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**Abstract:** As we know, several contemporary shifts in society, technology, production are reframing Design processes, approaches and tools.

And while professionals, educators, researchers are questioning about Design methods, tools, experiences, moving from to study the near past to define the next stage of innovation, Design as knowledge is evolving as a wide-open field with many applications and meanings. According to this awareness, when for the Twelfth edition of the International Conference of the European Academy of Design ([www.designfornext.org](http://www.designfornext.org)), it has been launched the topic 'Design for Next ...', the aim was to tackle the social, technological and industrial shifts of the future.

But in 'Design for Next ...', 'next' is not only a question of future, it implies the concept of proximity as well as of destination, related to time and to physical space.

Asking to the international Design community 'What is Design for the next? And what is the next' focus of Design?', we would like to discover future fields of investigation and practices in Design.

**Keywords:** Design Research, Future Studies, Design Challenges, New Visions

## 1. Premise: Design, Present, Future and possibilities

The studies about 'the anticipation' (also renowned as 'future studies') as a scientifically accredited process started from the '70s of last century (de Jouvenel, 1967, Cournand & Levy, 1973, Masini, 2006). But, it is just on recent years, that the impact of the 'future studies' are having a new awareness in the various knowledge and, in particular, on Design. An awareness about, in particular, on the processual dimension of Design that generates various form of innovation, from the social and cultural ones to the technological and productive. ([Http://www.projectanticipation.org](http://www.projectanticipation.org)).

The reasons for this new interest on the future studies are manifold and especially related to the various changes that are currently investing the traditional design processes.

These changes leave a designer 'on the field' with less and less sophisticated conceptual tools and methodologies.

On one hand, we are assisting in the de-materialization of our world (places, objects and process), in favour of a society of services. This has obvious implications for the role of the designer: its competences are replaced by other skills - from ICT to Humanities - in determining the so-called 'touch points' and in the possibility of co-designing the experiences of those who can no longer be considered simply consumers but 'people', in its the complex meaning. The need to take in account the process of sharing – involving a large number of people, too often not expert in Design – has definitively cancelled the classical Design condition as 'demiurge' or as 'sole author' of the project.

On the other hand, the evident importance that the processes (as 'way to do') are gaining in relation to the products (as 'results of what we do') is causing a paradigmatic shift for Design from the concept of 'form as substance' to the concept of 'process as a form'.

The traditional role of client (public or private) with an economic capacity to express a design 'request', defined and articulated, is disappearing in the new economic system.

That means the 'problem finding' (rather than 'problem solving') becomes the core of the design action, with a different opportunity for Design to play a driving role in the companies as well as in the society.

Moreover, the 'time' is becoming a crucial factor both in design and innovation processes. And while social demands seem to be satisfied in a short-term consumption, the technological innovations and the economic turbulent contexts require long-term organized processes where to build, step by step, conditions for more radical and useful transformations, rather than chasing the emergencies.

In this context, the inability of designers to be real 'engines' of the transformation processes – of the territory, goods, services – and to be a 'mediators between knowledge and needs' (Celaschi, 2008) is evident; therefore, to continue to plan and deal with transformation processes requires an attention to the future based on the idea of 'futures possible' described few decades ago by Bertrand de Jouvenel. With the concept of 'Futurible', he argued that, during the times of crisis and fear (not many different from what we are living today), the future has to be built not only exploiting discoveries and technical scientific innovations but using reflection, fantasy and utopia.

(De Jouvenel, 1967)

To anticipate the future, according to Jouvenel, is not question of numerical prevision, but it is cultural expression, moral fact, ability to recognize the consequences on life, happiness, society, and possible choices.

It is in this different capacity invoked by de Jouvenel that the Design is totally involved. But the overlapping terms between design words and the future are more complex.

The visionary connotation of the project, besides being intrinsically linked to its very meaning is closely linked to the development of modernity – the etymological meaning of the term 'project' derives from the Latin word *proiectare*, which means 'throwing forward'.

And this resumes a concept proposed by Victor Margolin (2007) which, in delineating possible relationships between Design, the future and the human being, distinguishes between predictive, prescriptive, pragmatic or idealistic scenarios.

"A predictive scenario is based on what could happen. Its methodologies involve gathering data and organizing it into patterns that make reflection on future possibilities more plausible. Creators of predictive scenarios recognize that the events or activities they study are too complex to control by fiat. In contrast, prescriptive scenarios embody strongly articulated visions of what should happen. Data plays a subordinate role in the argument for a specific course of action. Predictive scenarios tend to be pragmatic, while prescriptive ones are idealistic."

According to Margolin, designing (in the present) requires a vision of what the future could and should be. For him, 'could' puts in place the conditional, while 'should' is prescriptive, it becomes an action, a hint and it is not inevitable. Therefore, Viktor Margolin claims that Design, planning the future, should not only work on the contingency of human choices but it has to guide them, offering them new and different chances.

That means Design works with the idea of possibility, use the 'possibilities' as a tool of craft. The reference to the 'possible' and to the 'prescriptive' puts attention from what is (and it is often presented as inescapable/inevitable) to what it might be, thus bringing the discourse to a 'political dimension', with the meaning of to be active part at the society.

The term of opportunity, apparently vague and blurred but not at all weak, can mean of what is (still) indefinite and uncertain but also of what might be, putting the 'political' status of interpretations and visions in the foreground.

For Design, thinking about the future doesn't mean imagining great solutions with futuristic techniques, it means getting rid from the mental constraints of the present and imagine the possible. (Ferraro, 1998).

And when the future is possible, the question moves in to another temporal dimension: an indistinct space that is 'almost, not enough, but very close, so much to seem possible'.

And it is no longer a matter of future, but of 'next'.

To imagine the 'next' is a question of borders (in between the present and the future, in between what is and what should be) in order to articulate ideas, concepts and notions out of the conventional approach of 'inside-the-box'.

It is to look for topics or concepts related to social practices that, in somehow, are not evident but lie beneath the surface.

By paraphrasing what American writer William Gibson said, "The future is already here - it's just not very evenly distributed." (<http://www.npr.org/templates/story/story.php?storyId=1067220>), it is possible describe with effective synthesis the relationship between Design and 'next', where Design looks for predictive signals of the near future.

But these signals are never obvious, powerful, and well-defined: these are behaviours, attitudes, products and services of nowadays that announce in a 'weak' shape the future. in this case the concept of 'weak' doesn't have a minus meaning, it evokes the notion of early warning of phenomena that could become important in the future.

Therefore, the task of Design is to work with these 'weak signals' that must be recognized, focused and expanded.

## 2. Design challenges: in between signals, ideas and actions.

Three interesting experiences are reported below in order to evaluate if and how Design is reading and interpreting these signals and what is their importance to build the 'next future'.

### 2.1 Near Future Laboratory

The first one is about a design team, called 'Near Future' Laboratory which declares to have as goal the understanding how imaginations and hypothesis become materialized to swerve the present into new, more habitable, near future worlds: exploring people's needs, motivations and contexts, they map new design opportunities and chart potential futures. (<http://nearfuturelaboratory.com>)

Near Future Laboratory is a team of 'design' researchers who try to get out of conventional schemes in order to create new opportunities for an interaction in between society and new technologies.

With the pragmatism that often appeals scholars of applied sciences, their way of working can be defined as "thinking in action": their process moves from the idea to the prototype, to come back to the idea enriched with new facets. A continuous movement between thought and action to build devices that help us to imagine a more liveable, more sustainable and even more enjoyable world.

According to their founders, Julian Bleeker and Nicolas Nova, the 'adventure' started with the belief that there was an empty space between those who are committed to designing and producing objects (in particular, it refers to the world of profession) and who focuses on what should be constructed, basing on trend analysis and other forecasting practices (and here we refer to the world of scientific research).



Figure 1. An Ikea Catalogue from the Near Future. Near Future Laboratory with Mobile Life Center and Boris Design Studio. (retrieved in <https://shop.nearfuturelaboratory.com/collections/frontpage/products/ikea-catalog-from-the-near-future>)

The idea has been to develop a research and design practice that works in between long-term academic studies and the short-term development of the commercial product. In this 'time gap' - in between the short and the long term - they are convinced there is and can to be build what they call 'near future'.

Their goals are: a) to encourage design innovation by freeing it from market constraints; B) work fast without those large economic investments of the classic innovation processes; C) eliminate any censorship about ideas and projects due by the market factors, exploring unexpected possibilities; D) circulate knowledge and intuition quickly over the years - using the system of creative-commons and not the classical one of pay-to-know. And to pursue these goals, they chose to use the 'time' as a 'polyvalent expression'. Because their projects work on the interaction within humans and time, as well as their focus is on the near future. As they themselves admit, they feel in some way close to the imaginary worlds of Bruce Sterling: but they may well be considered constructors (rather than writers) of the imaginary. Each of their projects is an exploration of a piece of current reality, starting from unconventional premises, they investigate and designing a hypothesis of the future.

As in the 'Ikea Catalogue from The Near Future' project realized in collaboration with the Mobile Life Center and Boris Design Studio in Stockholm. In this project, they tried to imagine a real 'future' in which the Internet of Things is really present in everyday life. And what we can think, today, more 'normal' and of everyday of the Ikea's products? And so, without neglecting any details, considering all possible aspects (from shape to price), this new Ikea Catalogue, full of new kind of products, becomes the result of their Design Fiction.

For them, technologies (those of the Internet of Things) are not just opportunities for innovation, but stimuli to imagine new social practices, new ideas of the future. The most interesting approach of Near Future Laboratory is that isn't enough for them to have ideas, to describe and to design them. Their main concern is to test these ideas transforming in real experiences to get information and feedback. Hence the need to prototype these pieces of future physically and socially through objects and practices that can be experienced.

## 2.2 Officina Corpuscoli



Figure 2. *System Synthetic. Officina Corpuscoli with the Kluiver Centre for Industrial Fermentation. 2011. (retrieved in <http://www.corpuscoli.com/projects/system-synthetics/>)*

Therefore, this Design for 'next' is not just about analysis 'from a far', but real actions. Such as what is doing the second case-history that we are going to explore. This is not about a design team, but about a young designer, Maurizio Montalti, which after to be graduate he decided to open not a classical design office, but a research Lab, called Officina Corpuscoli, (<http://www.corpuscoli.com>) that seeks to reveal unorthodox relationships among existing paradigms. By distilling research and analysis and tangibly materializing relevant facts, his main goal is to create projects and conditions that allow for a resonant critical experience, by the synthesis of ideas through design.

The work of Officina Corpuscoli is toward the exploration of the Design approaches, aiming to investigate and reflect upon contemporary (material) culture, thereby creating new opportunities and visions both for the (creative) industry and for the society as whole. Officina Corpuscoli doesn't trying to explore many future – as the previous Design group – but is focusing on a specific scenario, with the aim of making it possible: his work revolves around the recent scientific 'discovery' on the potential of fungus and mycelium to have unexpected properties in interaction with inorganic materials such as plastics.

As in the Bio Ex-Machina, a multidisciplinary research project, where Montalti explored the possibilities of digital and biological interconnection through the creation of products capable of cultivating living cells in specific fungi or mycelium, gaining new functions and properties aesthetic. The main purpose of this design research has been the development of hybrid artefacts with nano-metric structures, imagined as an ecosystem able of combining strategies of algorithmic design, materials' behaviour and living organisms, also exploring production processes that use 'robot arms'. In this case, Montalti's bio-manufacturing can be understood as a real and experiential demonstration of a possible future where different signals, which in our present are niches of innovation, are combined to become widespread practice: a) the use of bioplastics as a sustainable alternative to the use of non-biodegradable materials; b) the use of robotics as an iterative production strategy and non-repetitive operations; c) a widespread access to all the disciplines

involved (computational design, biology, robotics, additive manufacturing) through open-source tools.

In this work, Montalti is convinced that designers must take on ethical responsibilities and pursue their ideas even if these are close to be utopic, albeit analytically and ethically correct. For him, the Design task seems to be to highlight the limits of industry and its current production methods. The effort is to bridge the existing gap between the experimental design – that is too often relegated to a niche – and a effective fruition by people; using specific projects he tries to demonstrate that it is possible to achieve a valid and cost-effective model for the economy as well as for the environment.

## 2.3 Full Grown

This approach is essentially to persuade about 'next' future, using facts more than with simple projects, albeit these can be well-developed and packaged.

And this is exactly what Gavin Munro is trying to do with his Full Grown. In fact, the third experience here reported is about not only a design experience but a production one. (<http://fullgrown.co.uk>) And if in the Near Future Laboratory, the focus is on the search for 'weak signals' and in Officine Corpuscoli all the efforts are to turn some of these signals into a new possible operational reality, Gavin Munro's experience has the value to be a piece of a 'next future' became reality and already in some way available.

This experience also starts from one of those 'weak signals' that, this time, Gavin Munro intercepted using a personal sensitivity.

Reflecting on the actual furniture production, Gavin asked what sense it would have. Before, we grow the trees just to cut them down; then, we work the wood into smaller pieces in order to re-assembling again in an object, durable like the original material, but with a new shape suitable for its function. This 'antithesis process' - growth, destruction, and new re-construction – seemed so illogical to Gavin that he felt the need to regenerate the whole process starting from the tree growth.

This has been the incipit for the development of a new way of designing and producing furniture, reducing at the minimum the use of technology. In the 'Full Grown' factory, Gavin Munro obtains its products by designing and driving the growth of trees through structures that accompany the growth of the young branches to assume the shape of chairs, shelves and tables.

The process of iterativity and non-repetition is entrusted entirely to 'mother nature', while the designer's task is of predicting, planning and treating the harvest, that, within a few years, will sprout and grow as chairs that do not need joints or connections, eliminating the assembly process.

This process, of which Munro is a pioneer, opens up a completely unexpected, but absolutely possible, way of sustainable, efficient and ecologically aware production method able to substantially change the industry's structure.

And in the next future, where today there are polluting factories, there will be cultivated fields of trees in the form of objects. A future where the self-production is the main component of the process, and the self-generation is conceptually entrusted to nature. And each Designer, and potentially each of us, can become a 'farmer of objects'.





Figure 1. *Field of Chairs. Full Grown.* (retrieved in <http://fullgrown.co.uk>)

### 3. Conclusion: next 'minimal' utopias

What emerges from these three experiences of 'Design for Next' is a sort of 'aporia' in between the wide dimension of the challenges to build the future and the small dimension of the concrete actions.

Design, in this construction of the future, seems to be able to touch relatively 'reduced' territories (intending here, with territory, the space of influence of the proposed solutions), and therefore weigh as 'single' and somewhat 'spontaneous' step towards the possible next future.

From these experiences, it seems evident that from those 'weak' signals can inevitably grow just punctual, but not less effective, visions. And this 'punctual' dimension of Design for Next points directly to another issue that is characterizing our contemporary and its future consequences: the loss of grand, universal narratives in favour of small, local narratives (Lyotard, 1979).

In fact, it is not difficult to argue that this beginning of the new century, unlike the previous one, is a century without great visions or great utopias.

Or better, it is an evidence that our contemporary culture (considering here contemporaneity as present) seems to be conditioned by the 'legacy' of a near past, such as that of the twentieth century, marked by the emergence of some grandiose ideologies and their unfolding.

This condition is felt by society, culture, politics both positively – as awareness of the failure and the exhaustion of the twentieth century utopias as in the warming of the Berthold Brecht's Galileo: "Unhappy is the land that needs a hero" (Brecht, *Life of Galileo*, Scene 12, p. 115, 1939) – and with a feeling of frustration – due to the latent fear that the total and absolute renunciation of any utopia leads to the cultural 'aporia'.

The dual meaning of the contemporary concept of utopia is also evident in the lexical use of this word sometimes taken with a very restrictive value (unrealistic, abstract model), sometimes to emphasize the denunciation of the existing situations and the positive capacity to orientate forms of social renewal (almost as opposed to ideology).

Design, more than other knowledge, is heavily invested by the absence of great visions.

The three experiences, before described, demonstrate in their aims, but also in their actions, to not contemplate large-scale utopias.

Today, in the construction of the 'next', Design expresses a discomfort towards any utopian thinking or towards the way of utopically thinking. (Moneti, 2011).

Design assumes an attitude of disillusion towards those unrealistic models closer to the concept of 'outopia', as a chimeric, unattainable 'place that is not there'.

Design shows a different form of utopia, or rather, a different purpose and meaning of 'utopian thinking', which is no longer in search of worlds too perfect and too remote to be able to aspire to become real, or even just to serve as guide for the ethical-political actions.

With this different approach of utopia, Design recalls the positive concept of 'eutopia': a 'right place', a horizon of 'not yet', towards which to aim the critical, planning and transformative efforts.

But this is not just an operational choice of Design.

It seems to express the specific character of contemporary society, which so strongly characterized by endemic uncertainties and insecurities (Prigogine, 1997) and liquefaction of social and cultural ties (Bauman, 2005).

Society doesn't ask any more so big and maximizing actions to be far from being realized, but rather many small possible actions resulting from so many small visions that then draw a collective vision.

In other words, we pass from the logic of maximizing utopia to the one of 'minimalist utopias' (Zoja, 2013) where, as Yona Friedman argues that believing in utopia and simultaneously to be realistic is no longer a contradiction. (Friedman, 2000).

It is on this logic of 'minimalist utopia' that the Conference Design for Next has opened and gave voice to the many possible future where urgent questions - social, technological, economic and environmental questions - find possible answers in minimal utopias who invest 'democratically' any field of design and can be replicated with different weights and measures not to describe perfect worlds but to act in many different real worlds.

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