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NEW NORMAL  
MULTIPLICITY  
PROXIMITY PROXIMITY  
RESILIENCE  
REVOLUTION  
THINKING THINKING

# DESIGN CULTURE(S)

Cumulus Conference Proceedings Roma 2021

Volume #2



Cumulus Conference  
Proceedings Series  
07/2021 Rome

**Design Culture(s)  
Cumulus Conference  
Proceedings Roma 2021**

Volume #2

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Lorenzo Imbesi  
Angela Giambattista  
Viktor Malakuczi

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# DESIGN CULTURE(S)

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Volume #2

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# OVERVIEW

---

36 **ABOUT THE  
CONFERENCE**

---

49 **EXHIBITIONS**  
all tracks

---

81 DESIGN  
CULTURE (OF)  
**ARTIFICIAL**  
track

---

629 DESIGN  
CULTURE (OF)  
**LANGUAGES**  
track

---

1175 DESIGN  
CULTURE (OF)  
**LIFE**  
track

---

1425 DESIGN  
CULTURE (OF)  
**MAKING**  
track

---

1891 DESIGN  
CULTURE (OF)  
**MULTIPLICITY**  
track

---

---

2095 DESIGN  
CULTURE (OF)  
**NEW NORMAL**  
track

---

2604 DESIGN  
CULTURE (OF)  
**PROXIMITY**  
track

---

3153 DESIGN  
CULTURE (OF)  
**RESILIENCE**  
track

---

3929 DESIGN  
CULTURE (OF)  
**REVOLUTION**  
track

---

4383 DESIGN  
CULTURE (OF)  
**THINKING**  
track

---

4768 **POSTERS**  
all tracks

---

# CONTENTS

36	<hr/> <p>About the conference Loredana Di Lucchio, Lorenzo Imbesi</p> <hr/>	69	<hr/> <p>PROXIMITY   Newcomers: Design for Immigrants Pratt Institute's School of Design, USA</p> <hr/>
49	<hr/> <p><b>EXHIBITIONS</b></p> <hr/>	72	<hr/> <p>RESILIENCE   Designing for Resilience: Creating new possibilities for industrial cities University of Monterrey, Mexico</p> <hr/>
51	<hr/> <p>ARTIFICIAL   City of Experiences George Brown College, Canada</p> <hr/>	75	<hr/> <p>REVOLUTION   UFØ Drift: In Search of Practice ArtEZ University of the Arts Arnhem, Netherlands</p> <hr/>
54	<hr/> <p>LANGUAGES   Post collaboration as a form of counter-culture: The birth of new languages University of Johannesburg, South Africa</p> <hr/>	78	<hr/> <p>THINKING   Design and awareness: user meeting ESDAP Catalunya, Spain</p> <hr/>
57	<hr/> <p>LIFE   Design for social problems in Mexico: living with disabilities Autonomous Metropolitan University, Azcapotzalco, Mexico</p> <hr/>	81	<hr/> <p><b>DESIGN CULTURE (OF) ARTIFICIAL</b></p> <hr/>
60	<hr/> <p>MAKING   New Textile Topologies: Experiments at the intersection of surface, textile and form The Swedish School of Textiles, Sweden</p> <hr/>	83	<hr/> <p>A participated parametric design experience on humanoid robotics Francesco Burlando, Xavier Ferrari Tumay, Annapaola Vacanti</p> <hr/>
63	<hr/> <p>MULTIPLICITY   Self-Acceptance to Self-Indulgence Pearl Academy, India</p> <hr/>	99	<hr/> <p>A systemic vision for the common good :  C A S E  Goods Mobility in the fourth industrial revolution Veneranda Carrino, Federica Spera</p> <hr/>
66	<hr/> <p>NEW NORMAL   Expedition 2 Degrees Zurich University of the Arts</p> <hr/>		

# CONTENTS

117	<hr/> <b>Activist Activated: Efficacies of AR Political Poster Design</b> Sarah Edmands Martin	199	<hr/> <b>Consensual (Design) Fictions: co-creating iterative use cases to define technology conceptualization</b> David Hernández Falagán, Andreu Belsunces Gonçalves, Kevin Koidl
130	<hr/> <b>Art, Design, and Mathematics: Software programming as artifice in the creative process</b> Carlos de Oliveira Junior, Eduardo Ariel de Souza Teixeira	215	<hr/> <b>Design of robotic for superhuman tasks</b> Fabrizio Formati
142	<hr/> <b>Artificial Creativity – Hybridizing the Artificial and the Human.</b> Yael Eylat Van Essen	227	<hr/> <b>Design, space management and work tools: enhancing human work in transition to Industry 4.0</b> Luca Casarotto, Pietro Costa, Enrica Cunico
156	<hr/> <b>Artificial Intelligence is a Character? Exploring design scenarios to build interface behaviours</b> Andrea Di Salvo, Andrea Arcoraci	237	<hr/> <b>Designers' skills for Social Robotics</b> Maximiliano Romero, Giovanni Borga, Rohan Sashindran Vangal, Francesco Baldassarra
168	<hr/> <b>Becoming Janus: The Subversive Potential of Face Recognition Technologies</b> Romi Mikulinsky	251	<hr/> <b>Designing for the future by understanding evolving culture based on advancing technology and the changing behaviours that accompany it.</b> Nayna Yadav
181	<hr/> <b>Between digital and physical. Envisioning and prototyping smart material systems and artifacts from data-informed scenarios.</b> Stefano Parisi, Patrizia Bolzan, Mila Stepanovic, Laura Varisco, Ilaria Mariani	264	<hr/> <b>Designing Somatic Play for Digital Natives through a Body-centric Design Process</b> Seçil Uğur Yavuz, Kristi Kuusk, Michaela Honauer

# CONTENTS

- 
- 279 Designing unpredictable futures.  
An anthropological perspective  
on the algorithmical prediction of  
human behaviour  
Giovanna Santanera, Roberta  
Raffaetà
- 
- 290 Digital Creativity Tools  
Framework  
Marita Canina, Carmen Bruno
- 
- 304 Digital tools that support  
students to reflect on their design  
competency growth paths  
John Fass, Job Rutgers
- 
- 316 Domestic AI and Emotional  
Involvement. Design Perspectives  
Mauro Ceconello, Martina  
Sciannamé, Davide Spallazzo
- 
- 328 Empowered by Code, to act in  
real word  
Alfredo Calosci
- 
- 339 Exploring Digital Inequalities:  
How Welfare States are  
disappearing behind an AI  
Paola Pierri
- 
- 349 From Decoration to Functionality  
— Research on smart accessories  
design in the Internet era  
Qingman Wu
- 
- 360 From the evaluation of  
acceptability to design of an  
assistive robot for elderly  
Francesca Tosi, Mattia Pistolesi,  
Claudia Becchimanzi
- 
- 376 Future heritage and heritage  
futures. A design perspective on  
the activation of Digital cultural  
heritage stored in archives  
Margherita Tufarelli
- 
- 386 Going beyond the problem of  
privacy: individual and social  
impacts of the use of personal  
information in connected services  
Laura Varisco
- 
- 400 Human and Artificial Intelligence  
for the Cultural Reform of Design  
Elena Laudante, Mario Buono
- 
- 412 Human Sensibility, Robotic Craft:  
Toward Autonomous Stonework  
Tom Shaked, Karen Lee Bar-Sinai,  
Aaron Sprecher
- 
- 423 Interface takes command.  
Educational environments, tools  
and practices to face the new  
normal.  
Alessio Caccamo
- 
- 437 Intelligent Voice Assistants: A  
Review of User Experience Issues  
and Design Challenges  
Lucia Rampino, Sara Colombo
-

# CONTENTS

449	Research on Gender Differences of Adult Head Shape in China Renke He, Wenxiu Yang, Wanshan Li, Haining Wang	537	The Perceptual and Dialogical Form of Design between Time, Space and Technologies Camelia Chivăran, Sonia Capece
461	Speculative Physical Models Created Through a Robotic Process Sara Codarin, Karl Daubmann	552	The role of Design in telepresence robotics experience Claudio Germak, Lorenza Abbate
476	Teaching Design in the Age of Platforms: A Framework for Platform Education Xinyi Li	565	The Venice Backup: Case studies on the use of Virtual Preservation Techniques on Architectural Heritage sites in Venice, Italy Kai Reaver
488	The body as an artefact: a case of hand prosthesis Venere Ferraro, Silvia Ferraris, Lucia Rampino	587	Towards a visual-based survey on explainable machine learning Beatrice Gobbo
502	The design of human machine interfaces: from data to risk prevention. Annalisa Di Roma, Alessandra Scarcelli	604	Toys and Play, Weapons and Warfare: Militarizing the Xbox Controller Rachel Berger
516	The Designer in the AI/Machine Learning Creation Process Frederique Krupa	619	Wearing the smart city: Supporting older adults to exercise by combining age-friendly environments and tailored digital public data Nicole Aimers, Alen Keirnan, Ann Borda, Sonja Pedell
526	The encounter between Design and Artificial Intelligence: how do we frame new approaches? Marzia Mortati		

# CONTENTS

---

629	<b>DESIGN CULTURE (OF) LANGUAGES</b>	754	Data visualization as a qualitative driver in knowledge communication: an interpretative framework Giulia Ciliberto
631	A Sidewalk museum. Exhibiting the collective dimension of the moving image Nicolo Giacomo Ceccarelli, Marco Sironi, Sabrina Melis	771	Design and Cultural Sites: New signage methods and languages for fruition, accessibility and storytelling Monica Oddone, Irene Caputo, Marco Bozzola
645	Abstract to figurative, and everything in between: visual design approaches and linguistic codes of a traditional form of animated product. Vincenzo Maselli, Eleni Mouri	786	Design and the 'Magical magic'. Disney and history, perceived heritage and shared memory Luisa Chimenz
659	Al-Kafiye: A Symbol of Change Hala Abdel Malak	800	D <sup>E</sup> sign D <sup>E</sup> cide The sign Tsvetomira Girginova
688	Beyondstories. People Narrative makes a Territory Aureliano Capri, Valeria Michetti, Veneranda Carrino, Mauro Palatucci	811	Designing the Gross. In search for social inclusion Adrien Rigobello, Nadja Gaudillière-Jami
707	Brand in Product. The language of the brand to govern complexity Mario Rullo, Massimiliano Datti	828	Finding New Representations of Old Knowledge: a design study of visualizing I-Ching Yvette Shen
726	Creating Visual Identity as Constellation: Methodological Project for a Design Workshop Ximena Izquierdo, Magdalena Ballacey	843	Form is function. Ethics and aesthetics of digital technologies in inclusive interface design. Letizia Bollini

---

# CONTENTS

852	<hr/> <p>'Graphicmance'. New Visual Languages between Design and Performance Giulia Scalera</p> <hr/>	938	<hr/> <p>Performativity as a language of sense-making for cultural service in local museum Shu Hongming, Eleonora Lupo</p> <hr/>
865	<hr/> <p>Inner Geographies as poetic-aesthetic knowing: the inspiration and manifestation of creative doings through an emotively-orientated sensory methodology Mizan Rambhoros</p> <hr/>	950	<hr/> <p>Solid perspectives and optical corrections of spaces in graphic &amp; architectural design Tommaso Empler, Adriana Caldarone, Alexandra Fusinetti</p> <hr/>
883	<hr/> <p>Italian Pavillion at XXII Triennale di Milano Ilaria Bollati, Luisa Collina, Laura Daglio, Laura Galluzzo</p> <hr/>	962	<hr/> <p>Spatial construction for ideational meaning: An analysis of interior design students' multimodal projects. Andrew Gill, Giovanna Di Monte-Milner</p> <hr/>
895	<hr/> <p>Language and identity in new Italian design Stefano Follesa, Peian Yao</p> <hr/>	976	<hr/> <p>Tales of Surprise: Exploring Sense Making Processes Through User Narratives Miray Hamarat, Ozge Merzali Celikoglu</p> <hr/>
906	<hr/> <p>Metaphors as Knowledge Activators in Data Visualizations: the case of the Archipelago of Calvino's literary works Tommaso Elli, Maria de los Angeles Briones Rojas, Beatrice Gobbo, Margherita Parigini, Virginia Giustetto, Valeria Cavalloro, Michele Mauri</p> <hr/>	992	<hr/> <p>The Design of Politics: Understanding the Arrest of Cesare Battisti Through the New Media Factor Noemi Biasetton</p> <hr/>
925	<hr/> <p>Patient Autonomy Indicators: a knowledge visualization tool for patient autonomy support Wen Zhang, Yuan Liu, Li Hou</p> <hr/>	1007	<hr/> <p>The Enlightenment of the Contemporary Transformation of Chinese Traditional Visual Space Perception on Cultural Sustainability design for all Jixiang Jiang, Dong Tao</p> <hr/>

# CONTENTS

---

1021 The Interplay between Ethics and Aesthetics in Intelligent Systems-Users Interaction  
Gabriele Barzilai

---

1034 The pluralistic aesthetics of nowadays design  
Francesca La Rocca

---

1049 The role of vernacular typography in the linguistic landscape of multicultural Singapore: A multimodal analysis case study of a gentrified street  
Min-Yee Angeline Yam

---

1063 The Threshold of Language: Design and Soma  
Daniela Monasterios-Tan, Susan Sentler, Ginette Chittick

---

1082 Towards a new design culture of scientific production – Innovating the formats of scientific publication of design  
Eleonora Lupo, Beatrice Gobbo, Emilio Lonardo

---

1098 Translation Design for medicine leaflets. Research and innovation.  
Elena Caratti, Antonella Penati, Valeria Bucchetti

---

1115 Visual dialects. Exploring early design sketching in various design disciplines  
John Daniel Öhring, Åsa Wikberg-Nilsson

---

---

1127 Visualizing Offshore Foreign Direct Investments: The Atlas of Offshore  
Michele Mauri, María De Los Angeles Briones Rojas, Jonathan Gray, Daniel Haberly, Chris Anderson

---

1144 What does this symbol mean? Icons as a Language for Emergency  
Rodrigo Ramirez

---

1159 Where methods meet form  
Meret Ernst, Maya Ober

---

---

## 1175 **DESIGN CULTURE (OF) LIFE**

---

1177 Adopt a costumer - to design new processes and packagings  
Maria Benedetta Spadolini, Chiara Olivastri

---

1190 Autonomy as a Design Principle: Service Design for the Technology Literacy of Older Adults  
Houjiang Liu, Miso Kim, Canqun He, Tia Thomson

---

1208 Bio-revolutions: radical change, design cultures and non-humans  
Carolina Ramirez-Figueroa, Luis Hernan

---

# CONTENTS

- 
- 1222 Cognitive Ergonomics  
Components for Analysis of User  
Interface in Healthcare Industry  
Mariia Zolotova, Angela  
Giambattista
- 
- 1238 Connect art and science for a  
functional biomimicry in design  
Andrea Forges Davanzati
- 
- 1244 Development of a test setup for  
validating a cognitive assessment  
platform within ICU's  
Muriel De Boeck, Philippe Jorens,  
Guido De Bruyne, Kristof Vaes
- 
- 1256 Food design as a tool for social  
development: experimental study  
in the evaluation of child smell  
Lígia Afreixo, Francisco  
Providência, Sílvia Rocha
- 
- 1272 FUTUR.DRESS. The Superskin for  
the Human Body in nearspace  
Maria Antonietta Sbordone, Ilaria  
Giampetraglia, Alessandra De  
Luca
- 
- 1286 Hybrid systems of human |  
technological | biological  
products: a road to a greater  
sustainability?  
Marco Marseglia, Francesco  
Cantini, Alessio Tanzini
- 
- 1301 No more whining – natural smart  
textile  
Nuutinen Ana, Pietarine Heidi,  
Kunnas Susan , Korpinen Risto,  
Sipola Reeta
- 
- 1308 Paving the way to post-digital  
smart materials. Experiments on  
human perceptions of a bio-  
inspired cellulosebased  
responsive interface  
Stefano Parisi, Markus Holzbach,  
Valentina Rognoli
- 
- 1325 The flow of emotions in co-  
creation  
Mariluz Soto, Caoimhe Isha  
Beaulé, Satu Anneli Miettinen
- 
- 1337 The Food Futures Teaching  
Cluster. Food Culture, Visual  
Communication Design, and  
Collaboration  
Peter K. Chan, Ben McCorkle, Rick  
Livingston
- 
- 1351 The river and the revered: Tracing  
the impermanence of the land,  
the people and the embroidered  
Indrajit De, Saumya Pande
- 
- 1364 The Shape of Drugs: a matter of  
Human-Centred Design  
Antonella Valeria Penati, Silvia  
Luisa Pizzocaro, Carlo Emilio  
Standoli, Valeria Maria Iannilli
-

# CONTENTS

- 
- 1377 The Wicked Home: Living Space as Ecological Holobiont  
Rachel Armstrong, Rolf Hughes, Nel Janssens
- 
- 1392 Three Dimensional technologies: Digitising Nature  
Gregor MacGregor
- 
- 1405 Towards Neurodesign. The Mental Effort in packaging design  
Alessio Paoletti, Lorenzo Imbesi, Angela Giambattista
- 
- 1413 "WIT" as a Sustainable Engine Overcoming Mind Fixation in Ideation  
Alon Weiss
- 
- 1425 **DESIGN CULTURE (OF) MAKING**
- 
- 1427 A designed generation: Maker's maturity and social responsibility  
Luca D'Elia
- 
- 1438 Accumulation of empirical investigation into joint structures in wooden furniture design  
Yi Shiang Lin, Ming Huang Lin, Jen Kuan Yau
- 
- 1453 Amorphous Stacks: A Low-Tech Construction Method for Jointless Cast Structures  
Liqiong Huo, Jongwan Kwon
- 
- 1468 An Exploratory Study about Communicating 4D Printing between Product Designers and Manufacturing Engineers  
Faten Ezrin Azhar, Eujin Pei
- 
- 1482 Biotextiles applied to everyday objects  
Viviana Quiña, José Francisco Alvarez Barreto, Cristina Muñoz Hidalgo
- 
- 1504 Claudio Alcorso and Post-war Textile Culture  
Tracey Sernack-Chee Quee
- 
- 1521 Collaborative Capabilities: aural encounters in digital/analogue co-creative making  
George S. Jaramillo, Lynne J. Hocking-Mennie
- 
- 1535 Collaborative ontology design for Open Hardware and Open Design  
Massimo Menichinelli, Emilio Velis, Andre Rocha, Alessandra Schmidt
- 
- 1551 Contemporary Spaces of Apparel Design: Embracing both Digital and Physical Environments  
Krissi Riewe
-

# CONTENTS

- 
- 1562 Design Cultures of Making: Fashion thinking as creative process and pedagogy  
Susan Postlethwaite
- 
- 1573 Design culture of playing. The musical instrument industry: an important culture of made in Italy.  
Marco Mancini
- 
- 1588 Digital encounters in the culture of textile making: developing a hybrid craftsmanship for textile design by fusing additive methods of surface fabrication with knitting technology  
Delia Dumitrescu
- 
- 1600 Distributed design and production for distributed care. Investigation on materializing bottom-up open and indie innovation in the field of healthcare  
Patrizia Bolzan, Massimo Bianchini, Laura Cipriani, Stefano Maffei
- 
- 1614 Heterotopia of Space: How capitalism is alienating and controlling societies  
Sarah Khayat
- 
- 1625 I - D (I – Design \_ Idiosyncratic Meta Design) Idiosyncratic Proceedings on Reading and Production Meta-Objects in Contemporary Industrial Design  
Mantikou Angeliki-Sofia, Farangas Athanasios, Zafeiropoulos Theodoros, Psychoulis Alexandros
- 
- 1640 If we can't make it together, we won't make it alone. The challenge and potential of collective making  
Lena Håkansson, Stephanie Carleklev, Stephan Hruza, Anna-Karin Arvidsson
- 
- 1652 Inter-Weaving Culture and Crafts in Design Education  
Puja Anand, Alok Bhasin, Priyanka Khattar
- 
- 1668 Learning through codesign toolkits. A case study on codesigning the cinema of the future  
Simone Taffe, Sonja Pedell
- 
- 1681 Letterpress: A Survey of Print Culture or an Immersive Learning Experience  
Alexander Cooper, Rose Gridneff, Andrew Haslam
- 
- 1695 Made by (Material) Frustration  
Arielle Blonder, Shira Shoval, Eran Sharon
-

# CONTENTS

- 
- 1711 Material culture(s). Research paths in an evolving material design culture, and the connected future designer's attitudes  
Doriana Dal Palù, Beatrice Lerma, Claudia De Giorgi
- 
- 1724 Mind-mapping in design culture: A tool for ideation in graphic design education?  
Philip Jones, Marion Morrison
- 
- 1738 New scenarios for developing cooperative platforms for local manufacturing  
Alberto Calleo, Giorgio Dall'Osso, Laura Succini, Michele Zannoni
- 
- 1752 Playing for change: designing a board game for the circular economy  
Thomas David Cockeram, Jessica Clare Robins, Emmanuel Tseklevs, Leon Cruickshank
- 
- 1769 Progetto Glume: from milling waste to resource for new materials  
Danilo Perozzi, Laura Dominici, Elena Comino
- 
- 1785 Re-distributed manufacturing in makerspaces. Towards a model of sustainable production  
Louis Rose
- 
- 1799 Research on the Application of Lacquer Craft in Modern Accessories  
Tianxiao Xie
- 
- 1811 The Emerging Fashion-Tech Paradigm in the Contemporary European Landscape  
Chiara Di Lodovico, Chiara Colombi
- 
- 1825 The evolving role of prototypes in design research: a discussion on terms and meanings  
Silvia D. Ferraris, Gabriele Barzilai
- 
- 1840 The Making of a Dress: Explicating the Implicit Processes  
Adrian Huang
- 
- 1857 The shape of wellbeing: investigating an approach for the development of a design requirements framework for design for wellbeing projects  
Sandra Dittenberger
- 
- 1873 Weaving sequential changes – designing textiles with multiple embedded stages  
Riikka Talman
-

# CONTENTS

---

1891 **DESIGN  
CULTURE (OF)  
MULTIPLICITY**

---

1893 Architectural Design Education as an Agent of Change: The Case of the Ultra-Orthodox Branch, Jerusalem  
Elissa Rosenberg

---

1904 “But I’m a lecturer not a therapist”: Educational Coaching – a proposed alternative approach to supporting students through their creative education  
Gary Pritchard

---

1918 Decoding the birth of transcultural fashion  
Shipra Kukreja

---

1934 Design as a medium for an informal learning. INDICOLearning from the interface to the activity  
Marina Puyuelo, Mónica Val, Hugo Barros da Rochas

---

1946 De-stereotype UX Design – Discussing and managing issues related to the clustering of users in the design of innovative solutions  
Margherita Pillan, Alessandra Mazzola

---

---

1958 Framing diversity: designing hearing aids from a deaf culture perspective  
Patrizia Marti

---

1979 Gazes and Gatekeeping: Reconceptualising the entrance portfolio in the post-colony  
Diane Steyn

---

1994 Hybridity as a culture of making  
Maya Ober, Nicole Schneider

---

2011 Hyper-Contextual Futures in Mexico City  
Paolo Cardini, Karla Paniagua

---

2025 Learning and Differences reciprocally shared and validated: A decade long Participatory Design collaboration between KG Elementary School and AD University  
Raymond Patrick Zachary Camozzi, Helene Day Fraser, Caylee Raber

---

2040 On (un)becoming in Design Academia: A Coloured female’s autoethnography  
Cheri Hugo

---

2058 The Ethics of Knowing a Shared Language and Intention in Design  
Lisa Elzey Mercer, Terresa Moses

---

# CONTENTS

---

2066 The Neighbourhood Home.  
System of environments for plural  
inclusion  
Ilaria Longo, Sonia Massari,  
Alessandro Spalletta

---

2081 Universal Visual Languages in a  
Male-oriented Society  
Valeria Bucchetti, Francesca  
Casnati

---

2095 **DESIGN  
CULTURE (OF)  
NEW NORMAL**

---

2097 A Comparative Study of Online  
Teaching Modes of Sino-Italian  
School of Design: A Politecnico di  
Milano, Tsinghua University, and  
Tongji University perspective  
Fan Chen, Lin Li

---

2107 A COVID-19 Horizon Scan Looking  
for Post-Pandemic Implications  
for Design  
Marcus Foth, Glenda Amayo  
Caldwell, Joel Fredericks

---

2126 A new way of perceiving the  
locality: economic growth, social  
inclusion, environmental  
protection  
Fabio Mongelli

---

---

2141 A Sustainable Jewellery Design  
Practice for Psychological Health  
after Covid-19  
Huiyi Qu

---

2153 Autopoietic design; seven  
components for a sustainable  
future design model  
Gonzalo Raineri Bernain

---

2165 Community-led design  
capabilities during the COVID-19  
pandemic and beyond  
Mariana Fonseca Braga, Eduardo  
Romeiro Filho, Haddon G.  
Guimarães Pereira, Emmanuel  
Tseklevs, Rosângela Míriam L. O.  
Mendonça

---

2182 Cross-Team Brainstorming and a  
Comparison of Online to Physical  
Version  
Heng-Yi Mie, Hsi-Jen Chen

---

2198 Design Education in a Pandemic  
Context  
Harald Skulberg

---

2210 Design for Sustainable  
Healthcare. Cutting the impact of  
medical products through  
disposable packaging  
Gabriele Maria Cito, Angela  
Giambattista

---

# CONTENTS

- 
- 2227 Designing new learning experiences in pandemic time: how digital can support a new didactic in Service Design  
Andrea Taverna
- 
- 2239 Ecosystem Framework for Community Life Circles based on Life Projects in the Post-COVID-19 Era  
Tao Chen, Yong-Ki Lee, Juyoung Chang
- 
- 2253 Expansive Video Capture – Up close, personal & specific tutoring “performances”  
Brendon Clark
- 
- 2265 Gamified e-Learning approached through Emotional Design in the Post-Covid-19 era  
Na Wei, Yong-Ki Lee, Juyoung Chang
- 
- 2275 Healthcare innovation during the pandemic time: digital technologies to enhance clinic 4.0  
Stefania Palmieri, Mario Bisson, Alessandro Ianniello
- 
- 2289 Hospitals’ decision-making regarding infrastructural adaptations in response to Covid-19  
Pleuntje Jellema, Margo Annemans, Ann Heylighen
- 
- 2302 Identifying Factors for Designing a Successful Telemedical Training System for Remote Pediatric Physical Exams  
Elham Morshedzadeh, Ph.D., Andre Muelenaer, MD, Jr, MD, MS,, Michelle Morris, Dana Werlich, Margaret Nelson, MD.
- 
- 2316 Inter-University Design Workshop: plurality in design education  
Inés Alvarez-Icaza Longoria, Diego Alatorre Guzmán, Reneé Harari Masri, Lucero Donaji De la Huerta Santaella, Ana Elena Hernández Palomino
- 
- 2332 Kids-centered Pocket Park design. Well-being for children in the urban post-covid context.  
Benedetta Terenzi, Anna Laura Pisello
- 
- 2347 Nanomedicine and Tourism in the post-pandemic era: smart “mobility & health” through wearable design for lab-on-chips  
Claudio Gambardella, Pietro Ferraro, Assia D'Alesio
- 
- 2358 Post-pandemic medicines: towards a new normality  
Antonella Valeria Penati, Carlo Emilio Standoli, Patrizia Bolzan
- 
- 2372 Reaching Audiences in 2020  
Sharon Hooper
-

# CONTENTS

- 
- 2387 (Re)envisioning the contribution of design to the sustainable transition of healthcare systems  
Amina Pereno
- 
- 2404 Reinforcing Networks of Place-Based Care and Resilience  
Julie Van Oyen, Jacquie Shaw, Laura Kozak, Jean Chisholm
- 
- 2419 Research on rapid mass production of emergency products based on FDM 3d printing  
Xueyan Wang, Dongmei Peng
- 
- 2433 Semi-immersive Virtual Habitat to Enhance Relaxation in People with Dementia during COVID-19 Emergency  
Silvia Maria Gramegna
- 
- 2446 Shifting paradigms in Sustainable Fashion Design education: Studying implications & effectiveness of pedagogical methods adopted in a pandemic setting  
Pragya Sharma
- 
- 2471 Strengthening city resilience through the re-orientation of a social innovation incubation programme in Covid-19 time. The case of 'The School of the Neighbourhoods'  
Marta Corubolo, Anna Meroni, Daniela Selloni
- 
- 2487 Telemedicine, today more than ever. The ABBRACCI design concept for COVID-19 patient monitoring  
Alessia Buffagni, Martina Frausin
- 
- 2500 The Challenges and Benefits of online Education and the possible impacts of the entry of IT firms in the education ecosystem  
Nayna Yadav
- 
- 2512 The design culture and the challenges of the new normal  
Nicola Morelli
- 
- 2524 The effects of eye expression on emotion perception  
Yi-Hsun Liu, Hsi-Jen Chen
- 
- 2537 The value of design in the emergency-driven scenarios. Crafting Ecosystems with data  
Francesco Dell'Aglio, Enza Migliore, Chiara Scarpitti
- 
- 2551 Thinking With Card: Curriculum-Led Making Activities Integrated with Distance Learning  
Benjamin Hughes
-

# CONTENTS

- 
- 2569 Understanding public health communication design globally during the Covid-19 pandemic: The Good, the Bad and the Ugly  
Emmanuel Tseklevs, Mariana Fonseca Braga, Alejandro Moreno-Rangel, Linli Zhang, Mafe Salazar, Hannah Field, Hayley Alter
- 
- 2594 “United in isolation. An online letterpress festival”. A community response to the Covid-19 pandemic  
Andrea Vendetti, Elettra Scotucci
- 
- 2604 **DESIGN CULTURE (OF) PROXIMITY**
- 
- 2606 A Design Experience for Interactive Narrative Based on The User Behavior  
Yuan Yao, Haipeng Mi
- 
- 2619 An answer to the complex representation of territory. The fertile ground of mnemotopes and design of communication.  
Clorinda Sissi Galasso, Giovanni Baule
- 
- 2630 Attractive Factors in the Experience of an Online User-supported Learning Platform  
Min-Yuan Ma, Hsin-Yi Huang, Eric Chen-F Hsieh
- 
- 2650 City Branding and Fictional Layers: Reading Istanbul through Filming Locations  
Zeynep Arda, Onur Mengi, Deniz Deniz
- 
- 2667 Co-Design processes for the inclusiveness of Rome's temporary communities  
Gianni Denaro, Luca D’Elia, Safouan Azouzi
- 
- 2679 Co-designing the future of a public space and its related services. The case of the Reggio Emilia Ducal Palace and its park  
Marta Corubolo, Anna Meroni, Daniela Selloni
- 
- 2694 Collaborative Futures: a pedagogical model for delivering future-focused and citizen-centred design education  
Marianne McAra, Kirsty Ross
- 
- 2710 Communicating social values to children using design solutions  
Laura Giraldi, Marta Maini, Francesca Morelli
-

# CONTENTS

- 
- 2720 Creating an inclusive learning environment to support transformative learning and encourage upward educational mobility opportunities for economically or academically under-resourced design students  
Michal Rotberg
- 
- 2736 Cultural Differences as Challenges and Design Drivers in the Development of Smart Assistive Technology for an Ageing Society  
Danying Yang, Louise Moody
- 
- 2752 Data visualization and knowledge sharing in participatory design to improve people liveability in urban places  
Giovanni Borga, Massimiliano Condotta, Chiara Scanagatta
- 
- 2768 Democratizing design: lessons from a case study in the Alpine area  
Daniele Busciantella Ricci, Ilaria Argenziano, Marta Gandolfi, Michela Ventin
- 
- 2786 Design for Promoting Pro-environmental Behaviours of the Georgian Domestic Workers in Ankara  
Ayşe Kaplan, Lilyana Yazirlioğlu
- 
- 2800 Design projects as drivers for organisational change in the public sector  
Felicitas Schmittinger, Alessandro Deserti, Francesca Rizzo
- 
- 2813 Design when you are the other 90%, a student's perspective  
Kyle Graham Brand
- 
- 2826 Design with Social Justice in Mind. The Case Study of Furniture Design in Elementary Schools  
Caroline Gagnon, Claudie Rousseau, Thomas Coulombe-Morency, Sonia Cadoret, Colin Côté
- 
- 2846 Evolving future city-based retailing via design thinking: A Chinese hybrid model approach  
Yujia Huang, David Hands, Rachel Cooper, Nick Dunn
- 
- 2862 Feeling Endem. How travel enhances applied-autonomy in spatial design  
Hans Venhuizen
- 
- 2878 Global Proximity: case studies of international and interdisciplinary collaboration between the USA, Italy, Guyana and Japan  
Valeria Albani, Paolo Cardini
-

# CONTENTS

- 
- 2887 Heritage and cultural accessibility: the role of design in the creation of an intercultural dialogue  
Marco Bozzola, Irene Caputo, Claudia De Giorgi
- 
- 2903 Immigrant Cultural Acculturation - A study of Tibetan Clothing in India  
Anahita Suri
- 
- 2920 Making in Proximity: Design Policies for collaborative making cultures  
Lina Monaco, Luca D'Elia, Viktor Malakuczi
- 
- 2931 Making practice as narrator of changing social worlds-Textiles and the Scottish Borders, in the 21st century, but based firmly on the past?  
Britta Kalkreuter
- 
- 2942 Multiple narratives for multiple visions: engaging citizens in building future scenarios for their city through participatory design and storytelling.  
Davide Fassi, Annalinda De Rosa, Francesco Vergani
- 
- 2955 New Technological Space for Tourists. Design as a Trigger of Experience, Osmotic-Membrane Interface, Know-How Provider and Social Engager  
Luisa Collina, Ilaria Bollati, Claudia Mastrantoni, Umberto Tolino
- 
- 2968 Placemaking through Creative Practice: Enabling Change and Empowering Future Change-makers  
Cheryl Giraudy, Saskia van Kampen
- 
- 2984 Proximity as space of opportunity: connecting people, productions and territories  
Valentina Gianfrate, Elena Formia, Flaviano Celaschi, Elena Vai
- 
- 2998 Radius 100 model – Working multidisciplinary theories, methodologies and design practice: An approach to social design beyond academia  
Dr. Yona Weitz, Arch. Sharon Koniak
- 
- 3014 Rethinking User Experience of Parking Garage. Exploring Innovative Suicide Prevention Strategies Through Motivational Design  
Sébastien Proulx, Adam Fromme, Leila Akberdin, Maria Basile, Olivia Forsyth, Maya Jenkins, Abby Nelson, Claire Spicer
-

# CONTENTS

---

3031 Signs of the Artisan City  
Eleonora Trivellin, Susanna Cerri

---

3046 Social networks as enablers of  
design cultures: An analysis of  
multiplex relationships among  
members of a creative hub  
Sine Celik, Tua A. Björklund

---

3059 Subversive Design. Designer  
Agency Through Acts of  
Insurgence  
Seth Parker

---

3072 The City of Care  
Anna Anzani, Elena Elgani, Maria  
Renata Guarneri, Francesco  
Scullica

---

3084 The power of designing choices  
Raffaella Fagnoni

---

3101 The systemic approach and the  
use of new technologies to  
communicate cultural heritage  
and develop a culture of  
proximity  
Marco Faccini, Alessandro  
Spalletta

---

3121 Towards a Design Observatory:  
crafting a distributed approach  
Nina Costa, Vasco Branco, Rui  
Costa, Afonso Borges, Raul Cunca,  
Ana Catarina Silva, António  
Modesto

---

---

3137 When a designer encounters an  
artisan: a parameter analysis  
investigation  
Carla Paoliello

---

## 3153 **DESIGN CULTURE (OF) RESILIENCE**

---

3155 0 Textile. A Design Research  
applying Circular Economy in  
textile field  
Maria Antonietta Sbordone,  
Viviana Vollono, Carmela Ilenia  
Amato, Barbara Pizzicato

---

3173 A Research on the Sustainability  
in Traditional Cave-Dwelling  
Construction Skills in Northern  
Shanxi Province (Jinbei Area)  
Runze Liu, Haoming Zhou

---

3182 A Study of Zero Waste Fashion  
Design and its Possibilities within  
a Design for Circularity Process.  
Debbie Moorhouse, Tracy  
Cassidy, Parikshit Goswami,  
Andrew Hewitt

---

3198 Awareness, compatibility and  
equality as drivers to resilience in  
sustainable design research  
Giuseppe Mincoelli, Gian Andrea  
Giacobone, Silvia Imbesi, Michele  
Marchi, Filippo Petrocchi

---

# CONTENTS

- 
- 3212 Circle Sector: exploring the role of designers in a circular economy  
Ben Hagenaars, Niels Hendriks
- 
- 3222 Cooperatives enterprise, incubators for the co-design of a new organizational and management model for sustainable development.  
Caterina Rosini, Silvia Barbero
- 
- 3235 Craft Your Future: Building a circular space through the European digital craft  
Chele Esteve Sendra, Manuel Martínez Torán, Eileen Blackmore, Hendrik Jan Hoekstra
- 
- 3249 Creativity as a Driver in Social Innovation Processes  
Debora Giorgi, Irene Fiesoli
- 
- 3264 Design culture (of) resilience. Space & Service design taxonomy, overcoming undefined space & service design contexts  
Nansi Van Geetsom, Andrea Wilkinson
- 
- 3282 Design education and forest environments – learning from and with living systems  
Caroline McCaw
- 
- 3297 Design educators in the 21st century: Applying The Compass methodology to prepare future designers as changemakers in a culture of resilience  
Catalina Cortés, Alejandra Amenábar
- 
- 3311 Design for Social Impact and Crafts Communities in Turkey  
Hazal Gumus Ciftci, Stuart Walker
- 
- 3324 Design Plugin: Using Design Thinking Approach in Smart Sustainable Cities Education  
Tarmo Jaakko Karhu, Martijn Gerhard Rietbergen
- 
- 3337 Codesign as an operative framework for Responsible Research and Innovation: the case of Krakow Technology Park  
Felicita Schmittinger, Francesca Rizzo, Alessandro Deserti
- 
- 3350 Designing community: creating resilience through collaboration  
Jessica Clare Robins, Emmanuel Tseklevs, Leon Cruickshank
- 
- 3365 Designing resilience. Design dealing with communities  
Carlo Branzaglia
- 
- 3371 Designing Resilience. Mapping Singapore's Sustainable Fashion Movements  
Harah Chon, Lim Jiayi Natasha, Elisa Lim
-

# CONTENTS

- 
- 3382 Designing Sustainable Product-Service Systems applied to Distributed Economies in Water-Energy-Food Nexus approach  
Renke He, Meng Gao, Carlo Vezzoli, Ke Ma
- 
- 3401 Discovering Design Values in the Chinese Pre-Qin Classics  
Miaosen Gong
- 
- 3412 Eco-lab-orating. Insights from an ongoing intervention with design school faculty  
Rakefet Kenaan
- 
- 3424 Educating Designers for the Circular Economy: Innovative Digital Resources, Collaborative Learning and Synergic Actions  
Lucinda Morrissey, Roberta Barban Franceschi, Ana Margarida Ferreira
- 
- 3436 Evolving the conventional curriculum: innovative learning interventions in a classroom to enhance design students' learning competencies  
Joselyn Sim, Harah Chon
- 
- 3448 Fashion Futuring. Rethinking sustainable fashion design  
Alessandra Vaccari, Ilaria Vanni
- 
- 3458 FASHIONABLE FAÇADE: textile waste innovations for the built environment  
Hilde Heim
- 
- 3476 Food Cycles. Redesigning processes and products  
Silvia Pericu
- 
- 3487 From Objects and Products to Things and Stuff  
Clare Green
- 
- 3501 Green infrastructures and satellite images: the case study of Munich  
Giovanni Borga, Filippo Iodice, Federica D'Acunto
- 
- 3516 I Don't Want to Feel Outdated. The dissonance between product attachment and contemporary relevance  
Malene Pilgaard Harsaae
- 
- 3527 Innovation through circular economy: Tool development for multidisciplinary approach to product-service-system Design  
João Sampaio, Ana Afonso
- 
- 3544 Lost in transition; Methodologies and tools of Product-Service Systems Design for major life transition  
Maria Paola Trapani, Nadejda Cervinscaia, Nadejda Cervinscaia
- 
- 3560 Materials Designers. Boosting Talent towards Circular Economies  
Laura Clèries, Valentina Rognoli, Pere Llorach-Massana
-

# CONTENTS

- 
- 3572 Preparedness and infrastructure design for disaster and emergency situations; the key to a resilient community  
Noemi Bitterman, Medardo Chiapponi, Alessia Buffagni, Andrea Cotti
- 
- 3585 Replicating the Unpredictable: Board Games as Prototypes for Wildfire Evacuations  
Thomas Maiorana
- 
- 3597 Revised Function Analysis of Sustainability - understanding the complexity of sustainability  
Paul Topf Aguiar de Medeiros, Charlotte Sjödel
- 
- 3616 Role of Social Ecologies within Social Design and Social Innovation  
Neeta Verma
- 
- 3626 Slow Engagement & Widening the Frame – Emerging Models of Social Innovation and Design Culture  
Diana Nicholas
- 
- 3641 Smart, Safe and Green System. A Resilient-Based Strategy for Sustainable Buildings and DIY Design  
Cecilia Cecchini, Miriam Mariani, Paolo Mondini
- 
- 3655 Strengthen Ties of Social Bonding Through Design from and Emotional Perspective  
Deyanira Bedolla Pereda
- 
- 3672 Study on the Sustainable Design of the Young Elderly Oriented Smart Wearable Products  
Chen Han, Shen Lei
- 
- 3686 Surviving in the wild: Sustaining design and social innovation initiatives in Asia-Pacific  
Cyril Tjahja
- 
- 3699 Sustainable Deliberation; an Empathetic 'Mantra'  
Amita Deshpande, Ranjana Dani
- 
- 3715 Teaching and Practicing Service Design and Social Innovation: Experiences with Communities at the Margins in São Paulo, Brazil  
Rosana Vasques, Mari Suoheimo, Maria Cecilia Loschiavo dos Santos
- 
- 3727 The cot, the pot and other stories  
Lena Gupta
- 
- 3755 The Materiality of Resilience  
Emile De Visscher, Lorenzo Guiducci, Iva Rešetar
-

# CONTENTS

---

3774 The poetics of waste in contexts of satisfactory use and social action  
Desamparados Pardo Cuenca, Patrik Baldan

---

3795 The potential of Theory of Change to visually model the underlying logic behind service design projects  
Luca Simeone, David Drabble, Kerstin Junge, Nicola Morelli

---

3810 The SDGs framework as strategic lever for design education.  
Simona Maccagnani, Marco Ricchetti

---

3823 The Tree and The Room: Co-Designing DIY WiFi Networks with Emergent Local Metaphors  
Michael Smyth, Ingi Helgason, Lauren Lapidge, Katalin Hausel

---

3838 Towards 'regenerative interior design': exploring a student project  
Giovanna Di Monte-Milner

---

3853 Trace: design and responsibility in the Prato textile district  
Elisabetta Cianfanelli, Renato Stasi, Matilde De Gennaro, Maria Grazia Soreca, Margherita Tufarelli

---

---

3863 Walk the talk: Towards an ecological futures framework for our designed cultures  
Håkan Edeholt, Jomy Joseph, Nan Xia

---

3878 Water infrastructure as leverage for resilient cities: a multi-scalar design perspective on urban flooding  
Sophie Leemans, Erik Van Daele

---

3894 Weaving the New Way of Making from the Andes  
Rodrigo Muñoz-Valencia

---

3912 Working with the United Nations Sustainable Development Goals in Design Education  
Silje Alberthe Kamille Friis

---

---

## 3929 **DESIGN CULTURE (OF) REVOLUTION**

---

3931 Alternative narratives data visualization archive  
María de los Ángeles Briones Rojas, Michele Mauri

---

3945 Becoming Lost and Found in Translation  
Mark Ingham

---

# CONTENTS

- 
- 3963 Critical Thinking in fashion design education - New learning approaches for a systemic change in the fashion industry  
Carolin Ermer, Julia Schwarzkopf
- 
- 3980 Design as a methodological stance in interdisciplinary research  
Valérie Côté, Caroline Gagnon, Lynda Bélanger, Daphney St-Germain
- 
- 3996 Design for Fast Track Democracy  
Jennifer Schubert, Bastian Koch
- 
- 4009 Disrupting governance by Systemic Design and co-creating the public value  
Carolina Giraldo Nohra, Eliana Ferrulli, Silvia Barbero
- 
- 4025 Disruptive technologies and behavioural change: Design fiction as trigger for critical thinking  
Mila Stepanovic, Venere Ferraro
- 
- 4043 Does design thinking matter? Empirical study and survey on the effectiveness of design thinking  
Hannah Park
- 
- 4057 Education formats to integrate Design with Humanities, Politics, Social Sciences & Education  
Anna Lottersberger
- 
- 4071 Experiments on complex systems mapping around materials.  
Flavia Papile, Romina Santi, Beatrice Gobbo, Tommaso Elli, Barbara Del Curto
- 
- 4088 Exploring visualizations of design processes from a design activist perspective – a scoping study  
Karina Goransson, Anna-Sara Fagerholm
- 
- 4105 Fashion-Tech Revolution: Future Frontiers from Products to Processes  
Alba Cappellieri, Chiara Colombi, Livia Tenuta, Susanna Testa
- 
- 4123 From the product to the object. The speculative design practice as instance.  
Chiara Scarpitti
- 
- 4135 From trustful empowerment to overwhelming guilt: pedagogy in current activism practices  
Alexia Autissier
- 
- 4147 Guilty Materiality: why we play down material relations  
Stéphane Treilhou, Clare Green
- 
- 4160 MANIFESTO! Now: Game Design for Revolutionary Thinking  
Julian Hanna, Simone Ashby, Sónia Matos, Alexis Faria, Callum Nash
-

# CONTENTS

- 
- 4174 Ph.D. Admission System Based Comparative Study in Design Discipline under Chinese Context  
Fan Chen, Jing-Yi Yang
- 
- 4187 Politics by design  
Elisabetta Cianfanelli, Maria Claudia Coppola, Margherita Tufarelli
- 
- 4200 Projecting Change: Redefining Preservation in the Era of Sea Level Rise  
Liliane Wong
- 
- 4218 Realising Discourse: A Strategic Design Solution to the Problem of Addiction  
Jason Hobbs
- 
- 4239 Reframing development: A proposal on the role of design research in Latin America based on situated views of the world  
Juan Alfonso de la Rosa
- 
- 4250 Speculative Design for the Public Sector. Design Fiction as a Tool for Better Understanding Public Services  
Gianni Sinni
- 
- 4263 Speculative Design in Education: Mapping the Landscape  
Ingi Helgason, Ivica Mitrović, Julian Hanna, James Auger, Enrique Encinas, Michael Smyth
- 
- 4275 Targeting Design Intervention across Levels of Complexity  
Tanner Slade, Nicola Morelli
- 
- 4288 The Agency of Discursive Design Exists in the Industrial  
Karma Dabaghi
- 
- 4303 The Patient Revolution. New design perspectives in healthcare innovative processes.  
Carla Sedini, Laura Cipriani, Massimo Bianchini, Barbara Parini, Stefano Maffei
- 
- 4319 The transformation will not be televised  
Peter Friedrich Stephan, Raz Godelnik
- 
- 4333 Time and Design. Time as a key parameter for a survey on contemporary design  
Enza Migliore
- 
- 4351 Walking the Line: Creative Research as Critical Activity for Design  
Brooke Chornyak, Tania Allen
- 
- 4370 Why we need more somatic culture in design  
Silvia Sfligiotti
-

# CONTENTS

---

4383	<b>DESIGN CULTURE (OF) THINKING</b>	4472	Design History and the Decline of Historical Thinking César Peña
4385	Always ordinary, never straightforward: Considering the work of Lorraine Wild David Cabianca	4482	Designers-Thinkers and the Critical Conscience of Design Sanna Simola
4403	Anticipatory Design and Futures Literacies: A Need and a Hope Andrew Morrison, Manuela Celi, Laura Clèries, Palak Dudani	4500	De-signing Ambiguity James Dyer, Christian S. Petersen
4420	Authorship and automation in the digital design culture Giuliano Galluccio	4514	Disruptive Thinking in Design Education Riccardo Balbo, Elda Scaramella, Serena Selva
4434	Banham's 'Unhouse' as Anti-Interiority: Towards Twenty-First-Century Theories of Design and Domesticity Helen McCormack	4524	Diversified Orientation and Design Value in Safeguarding of Intangible Cultural Heritage Tie Ji, Yinman Guo, Xiaolei Min
4444	Bodies of Evidence: making in/visible histories in South African Design Education Nike Romano	4542	Domesticity and digital eugenics: design cultures of Silicon Valley Luis Hernan, Carolina Ramirez-Figueroa
4459	Culture and Relationality. Moving towards 'post-rational' modes of design Tom Ainsworth, Sally Sutherland	4551	Exploring Asian Philosophies and Service Culture: the Notion of Dignity Miso Kim
		4562	Fantasia and analogical thinking: a specific reflection on teaching the essence of the Creative Leap Valentina Auricchio

---

# CONTENTS

- 
- 4573 How to teach design thinking to non-design students: enablers and barriers to transfer design research practices.  
Gianluca Carella, Michele Melazzini, Xue Pei, Cabirio Cautela, Marzia Mortati
- 
- 4595 Not just Thinkers, Makers  
Hein Dubery, Kyle Brand
- 
- 4605 Radical Interdependence: learning/doing with things  
Jaron Rowan
- 
- 4615 Rethinking & Appropriating Design Education for a VUCA World  
Jan Eckert, Sabine Junginger, Guillermina Noël
- 
- 4636 Rethinking Design through Literature  
Susan Yelavich
- 
- 4649 The chain reaction. How to design a process for transforming museums by rethinking the role of personnel  
Alessandra Bosco, Silvia Gasparotto
- 
- 4664 The concept of Interaction Design under review: literature review and interviews with qualified informants  
Eduardo Ariel de Souza Teixeira
- 
- 4674 The Emergence of Modern Design Discourse in the Eastern Mediterranean Region (EMR)  
Qassim Saad
- 
- 4689 The engagement of visitors in faber's houses and studios. Empirical design research and experimental actions in Lombardy  
Raffaella Trocchianesi, Anna Mazzanti, Alessandra Spagnoli, Davide Spallazzo
- 
- 4703 Theory under suspicion: criticality and material meaning in practice based research  
Marta Camps, Jaron Rowan
- 
- 4720 Tokyo 2020: globalization and self-orientalism in the communication of the next Asian Olympic Games.  
Claudia Tranti
- 
- 4736 Towards borderless futures: How transcultural approaches changed the practice of graphic design  
Juliana F. Duque
- 
- 4753 Which way to go? Some complicated crossroads facing design culture in Aspen.  
Elena Dellapiana, Ramon Rispoli
-

# CONTENTS

---

4768 **POSTERS**

---

4769 A visual-analytical approach to phases of transition in people's life paths

Laura Heym, Jennifer Schubert, Irene Visentini, Sofia Sanchez, Alvise Mattozzi

---

4770 Aeon, in his original meaning of "life", "vital force" or "being", "generation".

Ana Maria Fessmann, Elene Bakhdatze, Vaishnavi Bala, Varshini Janakiram, Janina Hietl, Gianfranco Olivotto

---

4771 Co-creating prosthetics as fashion accessories for assisting people with disability. The case of hearing impairment

Andree-Anne Blacutt, Stéphane Roche

---

4772 Collaborative methods: design bridging academia and industry

Teresa Franqueira, Pereira Catia

---

4773 Craft in Makerspaces: The Potential for Social Change for Sustainability

Alessandra Fasoli

---

---

4774 Creative design process for envisioning the future of emergency medical services in smart cities

Vipul Vinzuda, Niall Deloughry, Leonard O'Sullivan

---

4775 Design and Neuroscience for the UX. Possible tool for Designers

Alessio Paoletti

---

4776 Design as a tool for participatory transformation of urban space

Jacobo Muñoz Duato, Damià Jordà Bou

---

4777 Digital visual tool for design project development in a multidisciplinary team

Michela Carlomagno

---

4778 Education in social design by means of artistic photography

Cecilia Casas-Romero

---

4779 Enabling Collaborative Turns: A Conversation-Based Approach for Design Workgroups

Sze-Yunn Seah

---

4780 Experimenting new joints for more sustainable and easier to assemble furniture

Patrizio Cipollone, Viktor Malakuczi, Felice Ragazzo, Michele Russo

---

# CONTENTS

- 
- 4781 Exploring the potential uses of ocean plastic and public engagement activities for raising awareness  
Xingyu Tao
- 
- 4782 Feed: design for Eating Disorders prevention in pre-adolescent age.  
Carlotta Belluzzi Mus
- 
- 4783 Festival Living Labs: Involving the Festival Community in Sustainable Experimentation.  
Marije Boonstra, Aranka Dijkstra, Peter Joore
- 
- 4784 Grey matter - Matière grise. When the 'thé dansant' is no longer an option. Imagining an inclusive and intergenerational urban future, placing seniors as productive actors of the civic life.  
Jerome Picard, Elida Mosquera, Benoist Desfonds, Matthieu Boustany, Peeraya Suphasidh
- 
- 4785 Guided by Voices from the Fields: A case study on earth, plants and fashion design  
Piret Pupart, Julia Valle-Noronha
- 
- 4786 Heirloom a device for the survival of the fittest memories  
Valeria Volanti
- 
- 4787 Hybrid Town, Stories in Maps: from China to Milan  
Guido Tattoni, Hagit Pincovici, Germana De Michelis
- 
- 4788 Identities and sustainable futures  
David Serra Navarro, Carme Ortiz Valeri
- 
- 4789 Interaction studies applied to Robotic Surgery  
Giovanna Giugliano, Sonia Capece, Víctor Fernando Muñoz Martínez
- 
- 4790 Intervention of Indian Textile Craft in Design Pedagogy for Social innovation and Economic Growth  
Sakshi Babbar Paul, Saroj Bala
- 
- 4791 Italia 3.0. An educational strategy to enhance food as Food Cultural Heritage  
Monica Bortolussi, Martina Mitrione, Sonia Massari, Alessandro Spalletta
- 
- 4792 Kairos: How Digital Culture Heritage can improve society and its development through Systemic Design  
Giovanni Capoccia, Veneranda Carrino
- 
- 4793 Kinetic calendar for tracking physical and emotional stress in women  
Mariel Domínguez
- 
- 4794 Knitted expressions. Movement as material in Textile Design  
Faseeh Saleem
-

# CONTENTS

- 
- 4795 Love Leftovers - Useful fictions and what if we could put our memories on sale?  
Teodora Ivkov, Luca D'Elia
- 
- 4796 Mass media imaginary as a symbol. How image is revealing the crises of our time through cinematic design.  
Celia Cuenca García
- 
- 4797 Neighborhood Cowork (Cowork del Barrio): Co-creating agents for social change  
Sandra Molina, Cynthia Jaramillo, Alejandro Ramirez
- 
- 4798 Pen Your Thoughts: A Visual Design Language Study on Student's Learning Progression  
Jennifer Samonte Aguilar
- 
- 4799 Real-time snow information for tourists - Utilizing AI for tourism - Case Snowman  
Marija Griniuk, Maija-Liisa Rautiainen, Jesse Talsi, Päivi Timonen, Michelle van Wyk
- 
- 4800 Recycling, refusing plastic use and choosing biodegradable materials for new products  
Alexandra Anghelache
- 
- 4801 Shifting Mindsets, Bridging Generations  
Shiu Heng Sin
- 
- 4802 TellMi Ecosystem: an example of Design Process applied to didactic methodology.  
Elisa Chiodo, Michele Aquila
- 
- 4803 Time Well Spent. Facilitating mindful and meaningful screen use through a 'Design for Humansic Living' methodology  
Ace Chia
- 
- 4804 Trans/Feminist Critical Making – Design as Open-Source Opposition  
Michelle Christensen, Florian Conradi, Marie Dietze
- 
- 4805 Visual Exploration Method to Engage Art History with Practice-based Mindset in Design Education  
Hanny Wijaya
-



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# Cooperatives enterprise, incubators for the co-design of a new organizational and management model for sustainable development.

Caterina Rosini<sup>\*a</sup>, Silvia Barbero<sup>a</sup>,

<sup>a</sup>Politecnico di Torino

\*caterina.rosini@polito.it

**Abstract** | In the global economic context, cooperative enterprises have a considerable impact, with approximately one billion people worldwide estimated to be members of cooperatives (ICA e International Cooperative Alliance, 2015). In the historical evolution of the cooperative enterprise, they were born progressively, different typologies according to the most emerging collective problems (Depedri & Turri, 2015). However, the profound changes in the socio-economic context have expanded the emerging social needs, resulting in greater complexity that has challenged the established resilience of cooperatives. This complexity has led to the creation of a study based on the approach of Systemic Design (SD). Thanks to the primary tool of SD, the Holistic Diagnosis (HD), is possible to determine the current scenario and its complexity. The first phase of analysis of the context of reference is viewed from multiple points of view, such as economy, society, demography, and culture to identify strengths. With this background, the aim of this study is to define the first basis to design a new organizational model for social cooperatives, in the Italian context, to face the actual fluid situation. Specifically, the study highlights the cooperatives hidden potentialities to improve the structure of the organization and provide effective answers within the economic context. The HD is the first step to develop new organizational model for cooperative enterprises to be replicated on similar business models. To reach this goal a literature review is settle to highlight the actual gaps and a case study is analyzed in depth in order to obtain original data and validate the first hypothesis.

**KEYWORDS | SOCIAL COOPERATIVES, HOLISTIC ANALYSIS, ALTERNATIVE APPROACHES, SYSTEMIC DESIGN**

## Introduction

In Europe, the term social enterprise refers to those enterprises defined as organisations whose mission is to produce goods and services to meet the needs of local communities, social groups and people, sometimes in fragile conditions. In every European region, these enterprises have different definitions and frameworks, some studies have investigated the birth and development of this type of enterprise (Borzaga & Santuari, 1999; Barr, 1992).

However, the main reasons behind the birth of social enterprises can be identified in:

- market crises due to the lack of homogeneity of information between producers and consumers; social enterprises offer an alternative to government-led interventions by creating a more socially embedded, equitable economy (Ridley-Duff & Bull, 2015).
- inability of the welfare state to meet the needs of public services; social enterprises sell or offer social services, programs, and/or products to fulfil human needs, by addressing the social problems that humans face (Rasheda, 2019).
- Individuals and/or groups of people who take actions to meet their ethical, ideological or religious aims (Hansmann, 1980; Weisbrod, 1975; Costa, 2012).

The distinction between social enterprise and social cooperative has been the subject of different studies (Defourny, Nyssens & Brolis 2018; Linzalone, 2013; Chell, Nicolopoulou & Karataş-Özkan, 2010). The International Cooperative Alliance (ICA), whose task is to promote and strengthen autonomous cooperatives around the world, has come up against the difficulty of defining uniquely the form of the cooperative so as to reconcile all experiences on a global level (Vella, 2010). The first univocal definition was profiled at the 1996 Manchester Congress with the following description: "an autonomous association of people who come together voluntarily to meet their economic, social and cultural needs and aspirations through the creation of a jointly owned, democratically controlled enterprise". At the legislative level, cooperatives have been officially recognized in the European Union by Article 48 of the *Trattato di Roma*, which defined them as a specific type of "company". From this moment on, each member state has designed regulatory frameworks to protect the interests of members and third parties.

Among all the member states, Italy was the first to create *ad hoc* legislation to regulate this type of enterprise (Kerlin, 2006). With the law n.381/1991 art.7, the Italian normative defined social cooperatives as non-profit entities subject to an advantageous tax regime with the aim of "pursuing the general interest of the community to the human promotion and social integration of citizens". More in detail, Law 381/1991 distinguishes three types of social cooperatives: 1) Type A social cooperatives dealing with the management of social and health services, education, and cultural activities; 2) type B social cooperatives, which have the objective of introducing "disadvantaged individuals" into the world of work (at least the 30% of the cooperative's workers); 3) Type C social cooperatives represent a category made up of consortia of social cooperatives. The consortia may have different characteristics, of mutuality, territorial, cross-sector and experimentation for activities in new cooperative sectors (Borzaga, 1996; Borzaga & Janes, 2011).

In general, in Italy social cooperatives, even if they are not the predominant form of enterprise, still play an important role within the national economic context. According to the Euricse (European Research Institute on Cooperatives and Social Enterprises) report which examines both sectoral differences and the economic situation in national context, the number of social cooperatives in Italy is about 14,000. Although the Euricse survey is among the most accurate, it remains difficult to make a clear distinction between type A and type B cooperatives. However, to date, the Italian National Institute of Statistics (ISTAT) remains the main source for making historical comparisons between data, to frame with growth percentages, the phenomenon of social cooperatives in Italy, for example, referring to ISTAT data we know that in 2015 working cooperatives and social cooperatives had generate the most value added of whole cooperative sector equal to 73%. The strong growth of social cooperatives is partly due to legal regulation and partly to the growing demand for welfare services both from the community and from the individual founders of social enterprises (Galera & Borzaga, 2009). In this regard, to correctly frame the flowering of these enterprises it is important to underline how towards the end of the twentieth century in Italy there was a crisis of the welfare state that had become inefficient and state centred. In this period of economic and social crisis, cooperative enterprises began to flourish. Thanks to their social mission, cooperatives became the answer to market and government failures, which were mainly due to budget cuts that led to an increase in unemployment with a subsequent growing economic disparity and an increase in people at risk of poverty and social exclusion (Riva & Garavaglia, 2016). In this context, the strength of cooperatives lies in their ability to promote an alternative model of growth and development to that commonly adopted by for-profit companies. The alternative model translates into the creation of opportunities for economic and social inclusion and the ability to adapt political decisions to the interests and values of stakeholders (Linzone & Lerro, 2014; Kerlin 2006). Moreover, there is a large part of the literature that has highlighted the factors related to the resilience of social cooperatives (Cecop-Cicopa Europe, 2010; Euricse, 2015; Depedri, 2010). The human capital, among other factors, is a key element for the success of social enterprises. Indeed, much research has shown that workers in social cooperatives show greater commitment and loyalty. These elements translate into lower turnover but a high organizational effectiveness and productivity (Carpita & Golia S., 2012; Becchetti, Castriota & Tortia, 2013). In recent years, in order to withstand competition in the market with other types of companies, there has been increasing diversification within social cooperatives, which contributes to the development of multidisciplinary in terms of both professionalism and services offered (Euricse, 2015). On one hand, this multidisciplinary has contributed to increasing the resilience of cooperatives in the economic context, making them capable of facing and resisting the current economic crisis; on the other hand, a more varied composition, and a continuous drive for innovation in the organization flows allow a better adaptation to the social changes underway. Moreover, the merging capacity, the strengthening and renewal of the supply chains have contributed to increase productivity and competitiveness in this sector. In agreement with Shaw E. and Carter S. (2007) we can state that social cooperatives have been identified as an innovative model to address

emerging socio-economic needs. However, despite the positive aspects, some research and studies also explain the difficulties that social cooperatives have had to face in the process of affirmation (Linzone & Lerro, 2014; Thomas, 2004). Nevertheless, type B social cooperatives enjoy an advantageous tax regime, the outsourcing of public social services from social enterprises and the reduction of their budget are threatening the prosperity of cooperatives. Some studies have identified as major problems perceived by cooperatives: (i) the difficulty of opening to the market and becoming more independent from the public sector; (ii) the decrease in public procurement contracts by public authorities contributes to increased competition on cost-effectiveness by forcing cooperatives out of the market; (iii) the difficulty of obtaining financing and late payments by clients (Euricse, 2014; Riva & Garavaglia, 2016). Although in the past, social cooperatives have been fully able to respond to social needs, in the current context characterized by a strong complexity and also by a progressive reduction of resources, they are increasingly called upon to respond to new and particular needs (Linzone & Lerro A., 2014; Depedri & Turri, 2015).

In this framework, the present paper aims to study the current situation of Italian cooperatives not only in terms of growth and in terms of development, as already discussed in the literature through statistical, qualitative and quantitative studies. Rather, we want to investigate in deeper the internal organization and the problems related to the management of human and material resources. To this purpose, we will use the Systemic Design (SD) approach, an alternative business and design model able to provide interconnected solutions to the typical complexity of current situations, without neglecting social, environmental, and economic contexts. The analysis is strengthened from a real case study, a cooperative in Northern Italy, in order to work with primary and original data, like the historical evolution, the sectors of activity, the internal structure and the organizational flows of the work, and so on. The first step in the SD methodology is the Holistic Diagnosis (HD) to map the current scenario in all its complexity. Since the HD requires a deep level of detail, we decided to start with a single case study to use it as a reference to develop the analysis of other comparative case studies in the future, especially outside of Italy in order to have a more European scenario. The result that the study wants to achieve is to understand what are the critical issues in the current organizational model of the social cooperative, with respect to the new needs of the economic and social context. Once the criticalities of the current model and the needs of the reference context have been identified, we will proceed with the SD methodology in order to design a new model of social enterprise organization that can be replicated also on other similar realities. A fundamental aspect is also to facilitate the birth of new synergies that can involve not only public administrations but also private subjects, single citizens, or companies. The limits of the research are mainly related to the difficulty of finding all the data necessary to carry out an accurate mapping of the cooperative under examination. In fact, the cooperative in question has been in business for 30 years and has gone through many different phases that have brought with them changes in human resources and activities. In addition, there is another difficulty in obtaining information on the organisational flows of the work due to defined but not so rigidly defined roles within the cooperative as in a for-profit company, which makes the

changeover and maintenance of information more dispersive. However, we feel that by applying the SD methodology we could make a significant contribution in the innovating sector. We aim to increase knowledge about social cooperatives as an innovative business model aimed at meeting the emerging needs of today's society and to develop a new organizational strategy that meets both economic growth and workers' needs.

## Method

For many years, there has been a concern to understand the growth of social cooperatives and their development in different territories. Some research has adopted qualitative methods to explore the co-evolution of social enterprises and the welfare state in Italy (Testi, Bellucci & Biggeri, 2017; Corbie, 2012). Different methods have been proposed to assess the economic benefits that these enterprises are able to achieve (Kohonen, 2012; Arogyaswamy, 2017; Cordes, 2017; Gordon, Wilson & Tonner, 2018). However, given the strong growth and development of social cooperatives and because of the difficulty in finding financing for their activities, impact assessment has become a much more discussed topic in recent years. In fact, quantitatively assessing the social impact of a cooperative can serve both the financiers, as a basis for evaluation, and the social enterprises themselves, to understand if their work is working and if it meets its objectives. The literature has developed a lot on this issue, applying different methodologies, for example, the activities and outputs created (i.e. jobs, tangible products, cost reduction...) have been examined and evaluated as main indicators of benefit delivery or results (Olsen & Galimidi, 2009). Then there are approaches such as Social Return on Investment (SROI) and Blended Value Accounting that seek to combine financial value with social value to define a single parameter that represents the company as a whole (Kroeger & Weber, 2015). Therefore, we want to try to go beyond the evaluation of the most easily measurable or immediate results (Arogyaswamy, 2017), because these types of evaluation have a big limit in the field of social cooperatives, and especially type B social cooperatives: it is not always possible to give back the results of an activity in monetary terms. For example, the inclusion of a disadvantaged person in the labour market can be evaluated in economic terms as a monetary amount saved to the state for the economic support of that individual. However, being able to assess how long the individual will remain in the labour market or whether or not he or she will have negative effects is not taken into account. In relation to this, it is therefore useful to ask whether it is no longer necessary for type B social cooperatives to talk about social impact monitoring rather than evaluation.

According to what has been described, in the current framework of cooperative enterprises there is a fair degree of complexity both in terms of what to assess and how best to assess it. The aim of the paper is to investigate through SD the complexity of the relationships between the company, the workers and the results achieved, finally defining a new system based on social, environmental and economic sustainability. The SD is an alternative design approach able to provide interconnected solutions to the complexity that characterizes the current situations, including in this process also the economic, social, and environmental contexts (Battistoni, Giraldo Nohra & Barbero, 2019). For our study and for the promotion of

an even stronger social cohesion and flourishing of local economies, the SD intervenes with the HD. The HD is an analysis process that determines the context of the system, considering both the quantitative and qualitative characteristics of the scenario under examination. Through the data collected through HD, problems and levers for change are identified. The next step will then be to define guidelines for co-designing a new system whose results are accessible and understandable to all stakeholders.

The HD, applied to our case study, is divided into two steps: the first involves in-depth analysis of the cooperative's internal relations and its operational context; the second is divided into top-down and bottom-up analysis to map the relationships with the entire value chain. Initially, we proceed to analyse the current organizational forms of workflows and the policies in place, the basic activities in the cooperative's sectors of reference and, finally, we identify all the potentialities that can be stimulated to promote sustainable development.

### Specifically, phase 1:

We analyse the cooperative enterprise from its birth and historical evolution, then we examine the organizational structure from multiple points of view: workers' composition by age, cultural and economic dimension, scope of intervention. The data are collected directly at source thanks to the collaboration with the cooperative under examination and with its members. The information collected shows that the co-operative has most workers with fixed-term contracts and the majority are of Italian nationality; in fact, only 13% of the workers are of foreign origin (Fig.1). The average age of the workers is quite high, more than half of them are over 50 years old, and this factor has been identified as an influential aspect in the cooperative's capacity for growth and development. Having an older workforce implies greater difficulties in implementing internal changes especially about the digitalisation of processes and the transfer of knowledge. Most of the workforce is male, but this is due to the types of work carried out which often require greater physical strength but in no way attributable to discriminatory issues (Fig.2). In this context, the most important factor is the type of people the co-operative hires to fulfil its social mission. A 30% of the workers fall into the category of "socially disadvantaged people", which according to Italian law includes ex-prisoners, ex-alcoholics, and people with past drug addictions or in recovery, people with physical and mental disabilities. A peculiarity of the co-operative in question with respect to other co-operatives of the same type is that it chooses among disadvantaged people those who do not have any kind of work experience. In this framework, it is necessary to point out how much the social mission can influence and, in some ways, slow down the development of the organisation. Often these people are trained with the aim of making them acquire knowledge and skills useful for the job, but very often, they cannot sustain career transitions to roles that require responsibility. For the initial phase of historical analysis, interviews were carried out with the president of the cooperative and with the older members. For the organizational flows, information was collected through interviews with the department managers (Gardeners, Cemeteries, Selected waste collection) and took part in the weekly meetings in which the problems faced during the week were brought out. In this way, the designer has an immediate feedback on the validity of the data.

Once phase 1 is finished, it is necessary to frame the potentialities for the development and change of the cooperative and to do so it is essential to move on to phase 2: top-down and bottom-up analysis. In this phase, we proceed to map all the relationships with the stakeholders involved to identify the strengths and weaknesses on which to work together. HD requires a high degree of detail, fundamental to map and understand the intrinsic complexity of the study context. According to the HD results an high dependence from public institutions emerged, tangled relations with employment office for workers recruitment and internal resistance to change especially in the management sector.

### CASE STUDY

Social Cooperative - Agridea

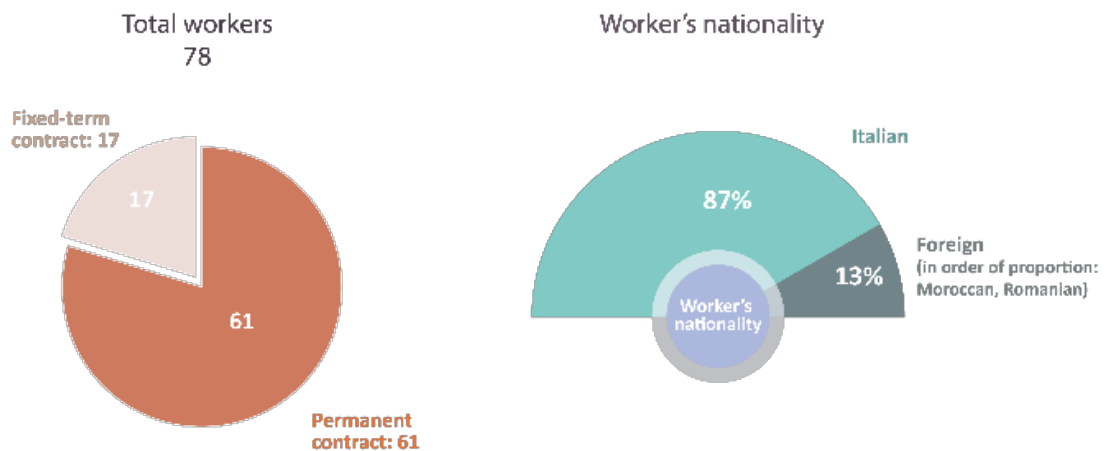


Fig. 1 type of contract and workforce nationality

### CASE STUDY

Social Cooperative - Agridea

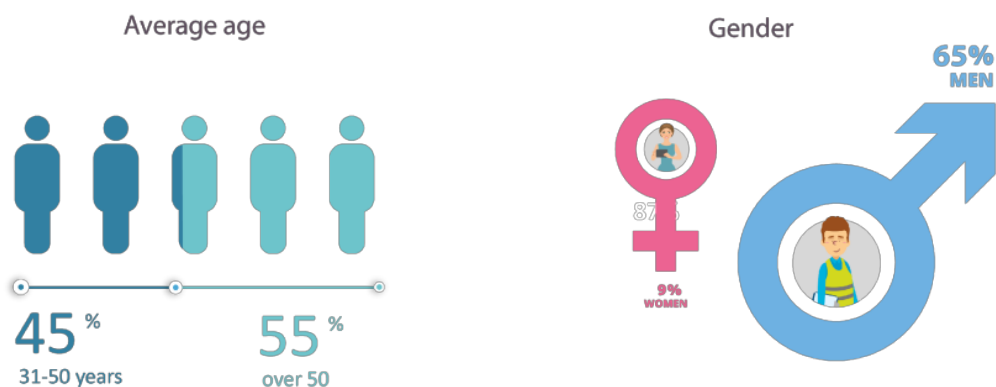


Fig.2 Workforce composition

## Case Study

The type B social cooperative, Agridea is based in Turin. It was founded in 1992, following the publication of Law 381 of 1991, as a spin-off of another social cooperative called Stranidea. The initial sector of activity concerned the management and maintenance of green areas and there were five social workers in total. In 1993, the management of cemetery services was included, and so the second sector of activity was born. However, the first important development was in 1995 when Agridea was entrusted by the city of Turin with the management of urban green areas with a 2-year contract. Thanks to this first contract, the cooperative can obtain loans that it will use to buy the necessary equipment and to train its workers after this first big leap, the intention to create a more structured organization begins to manifest itself. In 2005, in collaboration with a Consortium, Agridea started to test the separated waste collection from the markets. The cooperative has grown significantly; to date it has about 70 workers and dependent members of which 30% are disadvantaged, as required by legal regulations. The governance model adopted by the cooperative is a traditional one, i.e. there is a board of directors, in this case represented by the president, vice-president and director, and a Board of Statutory Auditors, which supervises the work of the administrative body. The analysis of the organisational structure has shown that Agridea adopts a hierarchical model, which today is found almost exclusively in companies of minimum size. This model is functional thanks to the speed of transmission of orders and the transparency and clarity of relations. However, this organisation makes difficult the specialisation and the creation of "key roles".

## Results and discussion

The growth of social cooperatives throughout Europe has gone hand in hand with the evolution of social problems. In Italy, too, this phenomenon has triggered a growing development of this type of enterprise. The SD approach with HD, promotes a multidisciplinary approach that brings together different stakeholders from different levels of the cooperative (managerial, operational, collaborative contacts with external bodies...) and provides the starting point to establish an innovative co-design. From the first part of the HD emerged a strong ability of Agridea to reinvent and develop itself in a quite autonomous way. In fact, since the birth of Agridea (1992), analysing its historical evolution, two years of economic loss have emerged, one in 2006 and one in 2010. The losses have always been absorbed in a maximum of two years and all sectors of activity have been maintained. This fact can be summed up in a good ability on the part of the management sector to manage difficult situations and to be able to recover. At the same time, we point out that in both years of crisis, all the workers remained in Agridea, no one resigned or was dismissed, a factor that shows a strong link on the part of the employees with the cooperative reality, which in turn contributes to strengthening the resilience of the cooperative. Another aspect that emerges is Agridea's willingness and ability to structure its

office staff in a more hierarchical way and with better defined roles, in the last few years this has improved the difficulties in managing the three sectors of activity: gardeners, cemeteries and selected waste collection. While on the one hand the hierarchical approach allowed a better management of tasks and work, on the other hand it contributed to a centralisation of responsibilities especially in the sector heads. This has led the co-operative to have a strong dependence on the people who incorporate these roles and who have become "indispensable" for the proper functioning of the whole organisation. Initially, what appeared to be an already consolidated organisation, HD brought to light the most hidden criticalities (Fig.3). When looking in detail at the organisation of a single sector, critical points emerged in the various areas. For example, the sector leaders must deal with the management system and the preparation of the daily programme according to the work to be carried out. The management system requires digital skills, which the managers have acquired through training. This training has not been extended to other workers who could potentially replace the current sector managers, so the co-operative does not currently have people capable of replacing the current managers in office tasks. This leads to two other closely related problems, a managerial culture, which is not encouraged and unilateral substitutability, i.e. the heads can fill in the gaps in the operational area, but the opposite is not possible. The head of each sector must interface with the administrative area for customers and suppliers, which constitutes an additional burden of tasks for the sector heads who, especially at certain times, e.g. holiday periods, monthly closures of activities in terms of budget, have an overload of tasks to perform that sometimes forces them to stay beyond the 8-hours working time. Finally, from the analysis of the production area and therefore, of the management of the workers, a strong operational-strategic dependence between the teams of workers and the sector manager emerged. There is a lack of intermediate responsibilities among workers who are unable or unwilling to take responsibility for operational and organisational choices even when they would be able to support them thanks to previous experience. Moreover, there is no horizontal mobility between sectors, although it could be activated in some tasks.

**CASE STUDY**  
Social Cooperative - Agridea



*Fig.3 Criticalities and potentialities of a sector*

Among the positive aspects that emerged, there is certainly good internal communication between sectors and efficient timing in making decisions, especially in response to work emergencies.

The teams are integrated and collaborative in two sectors (gardeners and cemeteries) while the sector of selected waste collection sometimes suffers from conflicts between workers. Furthermore, among the critical aspects that emerged between the first and second phases of the analysis, there are the difficulties in communicating changes and their acceptance. Communications between the sector managers and the workers are quite efficient but there is resistance for some subjects, especially in monitoring the proposed changes at organisation and management level. Interviews with the president and the workers' members showed that of the three sectors, the selected waste collection is the one that has had the lowest growth and for which there has been no news for many years. At the organisational level, there has been a strong propensity to solve problems in the immediate future, probably thanks to the solid experience of 30 years of work. At the same time, an inability to plan solutions to problems that are repeated cyclically (i.e. at seasonal level or annual) has also emerged. This may be partly due to have mostly works through tenders with variable durations: it is difficult to apply a method for solving problems that there is no certainty of having to deal with those problems again. Based on these assumptions, we decided to deal with the transmission of information as a first step to be able to implement organisational changes in the future. Given the nature of the company and its workers, it is indispensable that all the workers of the cooperative are aware of the processes active in the organisation of work, in this way it is possible to raise awareness towards the assumption of greater responsibility and collaboration.

In this perspective, an active training course was started which involved a first group of 30 people. At the end of the training, we expect to be able to identify among the workers those

who have shown greater predisposition in assuming roles of responsibility and who are evaluated by colleagues as reliable. The final intent will be to implement changes in the cooperative not only as regards the organization chart but also in the management of workflows. Moreover, the organizational changes should come through a co-design process within the workers.

## Conclusion

The paper analysed through the methodology of SD the case study of the type B social cooperative, Agridea, in order to have some preliminary data and reflection on how the organizational model could be more effective in this times. The intent of mapping the growing complexity in the economic and social context that cooperative enterprises must face is to design a new organizational model concerning both the internal structure and therefore the roles and responsibilities of employees and external activities. With the new model, the aim is to develop new supply chains and new synergies, able to make the cooperative strong and resilient in the territory and in the context of action. This new type of social enterprise will be able to contribute to the development of new local economies, and the social impact will be greater as the relationships and actions undertaken increase. Above all, not only an innovative organizational model will be valuable outcomes of this research, but also the way in which this will be designed. This study aims to be the first step in the development of a project that will lead the Agridea cooperative to concretely implement the new model of organization. In addition, the paper contributes to the scientific literature by providing a deeper knowledge on the needs that social cooperatives must diversify within the national economic context. Moreover, it wants to contribute to the development of a more sustainable cooperative economy with full respect for the social mission.

## References

- Arogyaswamy, B. (2017). Social entrepreneurship performance measurement : A time-based organizing framework. *Business Horizons*, 60(5), 603–611.
- Barr N (1992) Economic theory and the welfare state: a survey and interpretation. *J Econ Literature* 30:741–803
- Battistoni, C., Giraldo Nohra, C., & Barbero, S. (2019). A Systemic Design Method to Approach Future Complex Scenarios and Research Towards Sustainability: A Holistic Diagnosis Tool. *Sustainability*, 11(16), 4458.
- Becchetti, L., Castriota, S., & Tortia, E. C. (2013). Productivity, wages and intrinsic motivations. *Small business economics*, 41(2), 379-399.
- Borzaga, C. (1996). Social cooperatives and work integration in Italy. *Annals of Public and Cooperative Economics*, 67(2), 209-234.
- Borzaga, C., & Ianes, A. (2011). *Il Sistema di Imprese della Cooperazione Sociale: Origini e Sviluppo dei Consorzi di Cooperative Sociali (Networking Among Social Cooperatives: Origins and Development of Consortia)*.
- Borzaga C, Santuari A (1999) L'evoluzione del terzo settore in Italia. In: Matacena A (ed) *Scenari e strumenti per il terzo settore*. Egea, Milano, pp 27–66.

- Carpita, M., & Golia, S. (2012). Measuring the quality of work: the case of the Italian social cooperatives. *Quality & Quantity*, 46(6), 1659-1685.
- Chell, E., Nicolopoulou, K., & Karataş-Özkan, M. (2010). Social entrepreneurship and enterprise: International and innovation perspectives.
- Corbie, M. (2012). The quality of work life of people with severe mental disorders working in social enterprises : a qualitative study. 1415–1423.  
<https://doi.org/10.1007/s11136-011-0057-7>
- Cordes, J. J. (2017). Using cost-benefit analysis and social return on investment to evaluate the impact of social enterprise : Promises , implementation , and limitations. *Evaluation and Program Planning*, 64, 98–104.
- Costa, E., Andreaus, M., Carini, C., & Carpita, M. (2012). Exploring the efficiency of Italian social cooperatives by descriptive and principal component analysis. *Service Business*, 6(1), 117–136. <https://doi.org/10.1007/s11628-011-0131-9>
- Defourny, J., Nyssens, M., & Brolis, O. (2018). Mapping and Testing Social Enterprise Models Across the World: Evidence from the “International Comparative Social Enterprise Models (ICSEM) Project.
- Depedri, S. (2010). The competitive advantages of social enterprises. Borzaga C. and Becchetti L., *The Economics of Social Responsibility*, Routledge, London, in editing.
- Depedri, S., & Turri, S. (2015). Dalla funzione sociale alla cooperativa di comunità: un caso studio per discutere sul flebile confine. *Impresa sociale*, 5, 65-82. Euricse Annual Report 2011-2012
- Euricse (2015), *Rilevanza, evoluzione e nuove frontiere della cooperazione italiana*. Terzo Rapporto Euricse, Euricse Edizioni, Trento
- Euricse (2014), *La cooperazione italiana negli anni della crisi*. Secondo Rapporto Euricse, Euricse Edizioni, Trento.
- Europe, C. C. (2010). Cooperative enterprises in industry and services prove their strong resilience to the crisis. Cecop-Cicopa Europe, Brussels, available at: [www.cecop-coop.org](http://www.cecop-coop.org) (accessed 9 October 2015).
- Galera, G., & Borzaga, C. (2009). Social enterprise. *Social enterprise journal*.
- Gordon, K., Wilson, J., Tonner, A., & Shaw, E. (2018). How can social enterprises impact health and well-being?. *International Journal of Entrepreneurial Behavior & Research*.
- Kerlin, J. A. (2006). Social enterprise in the United States and Europe: Understanding and learning from the differences. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 17(3), 246.
- Kohonen, M. (2012). Actor-network theory as an approach to social enterprise and social value: a case study of Ghanaian social enterprises (Doctoral dissertation, The London School of Economics and Political Science (LSE)).
- Kroeger, A., & Weber, C. (2014). Developing a conceptual framework for comparing social value creation. *Academy of Management Review*, 39(4), 513-540.
- Hansmann H (1980) The role of non-profit enterprise. *Yale Law J* 89(5):835–901
- ISTAT, *Struttura e performance delle cooperative italiane anno 2015*. Rapporto di ricerca
- Linzone, R., & Lerro, A. (2014). Between solidarism and business management: assessing management factors for social enterprise: a survey in Italy. *Measuring Business Excellence*.
- Manoudi, A., Balourdos, D., & Marini, F. (2014). A Map of social enterprises and their ecosystems in Europe. Country Report: Greece. European Commission, Brussels.

- Olsen, S., & Galimidi, B. (2009). Managing social and environmental impacts: A new discipline for a new economy. *The Brown Journal of World Affairs*, 15(2), 43–56.
- Powell, J. L., Chen, S., Riva, E., & Garavaglia, E. (2016). The sustainability and political agency of social cooperatives in Italy during the great recession. *International Journal of Sociology and Social Policy*.
- Ridley-Duff, R., & Bull, M. (2015). *Understanding Social Enterprise: Theory and Practice*, SAGE Publications. London.
- Riva, E., & Garavaglia, E. (2016). The sustainability and political agency of social cooperatives in Italy during the great recession. *International Journal of Sociology and Social Policy*, 36(7–8), 435–455.
- Shaw, E., & Carter, S. (2007). Social entrepreneurship. *Journal of small business and enterprise development*.
- Testi, E., Bellucci, M., Franchi, S., & Biggeri, M. (2017). Italian social enterprises at the crossroads: Their role in the evolution of the welfare state. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 28(6), 2403-2422.
- Thomas, A. (2004). The Rise of Social Cooperatives in Italy. 15(3).
- Vella, M. (2010). *Appunti di Cooperazione*. Universo Coop. Retrieved from [http://www.universocoop.it/biblio/Documenti/appunti\\_di\\_cooperazione\\_maria\\_vella.pdf](http://www.universocoop.it/biblio/Documenti/appunti_di_cooperazione_maria_vella.pdf)
- Weaver, R. L. (2019). Social enterprise and the capability approach: Exploring how social enterprises are humanizing business. *Journal of Nonprofit & Public Sector Marketing*, 1-26.
- Weisbrod B (1975) *Toward a theory of the voluntary non-profit sector in a three sector economy*. In: Phelps ES (ed) *Altruism, morality and economic theory*. Russell Sage Foundation, New York

#### **About the Authors:**

**Caterina Rosini** is a PhD student in Management Production and Design at the Politecnico di Torino (Department of Management and Production Engineering). Her doctoral research focuses on applying the Systemic Design in organizations, especially cooperatives, with the intent to boost the development of a sustainable enterprise model which respects the resources of our planet, both humans and materials.

**Silvia Barbero**, PhD, is an Associate Professor at Politecnico di Torino (Department of Architecture and Design). She is a lecturer of “Product Environmental Requirements” at the Design and Visual Communication degree and of “Open Systems” at the Systemic Design Master degree. She is also responsible for the stage & job in design curriculum. Her research mainly focuses on Systemic Design applied to territorial sustainable development.

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