diid

disegno industriale
industrial design

theorìa
pòiesis
praxis

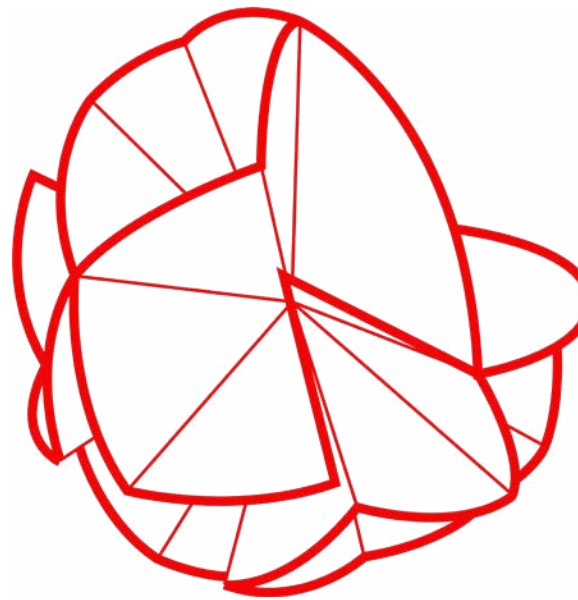
diid.it

DIGITAL
SPECIAL
ISSUE
1

Disrupting Geographies in the Design World

Proceedings of the 8th International Forum of Design as a Process

Alma Mater Studiorum — Università di Bologna



Editors
(Eds.)
Erik Ciravegna
Elena Formia
Valentina Gianfrate
Andreas Sicklinger
Michele Zannoni

Colophon

diid
disegno industriale
industrial design
Digital Special Issue 1
— DSI 1

Year
XXI

diid is an open access
peer-reviewed scientific
design journal

diid is published
three times a year

Registration at Tribunale
di Roma 86/2002
(March 6, 2002)

www.diid.it

Print subscription
(3 issues)
Euro 60,00
Subscription office
ordini@buponline.it

Editor-in-chief
Flaviano Celaschi
Alma Mater Studiorum
— Università di Bologna

Deputy Editor-in-chief
and Managing Editor
Elena Formia
Alma Mater Studiorum
— Università di Bologna

Editors
Erik Ciravegna
Elena Formia
Valentina Gianfrate
Andreas Sicklinger
Michele Zannoni
Alma Mater Studiorum
— Università di Bologna

Founded by
Tonino Paris

Associate Editors
Viktor Malakuczi
Sapienza — Università
di Roma

Lorela Mehmeti
Alma Mater Studiorum
— Università di Bologna

Elena Vai
Alma Mater Studiorum
— Università di Bologna

Art Director
Davide Giorgetta

Editing Assistant
Olga Barmine

CC BY-NC-SA
Creative Commons
Attribution
NonCommercial
ShareAlike

Copyright © 2023
diid disegno industriale
industrial design

Publisher
Fondazione
Bologna University Press
Via Saragozza 10
40123 Bologna
Tel. (+39) 051 232 882
Fax (+39) 051 221 019
www.buponline.com
info@buponline.com

ISSN
1594-8528

ISSN Online
2785-2245

DOI
10.30682/diiddsi23

ISBN Online
979-12-5477-329-1

Scientific Board

Mariana Amatullo
Parsons School of Design
— The New School

Laura Badalucco
Università Iuav di Venezia

Alberto Bassi
Università Iuav di Venezia

Anna Bernagozzi
École nationale supérieure
des Arts Décoratifs, Paris

Paola Bertola
Politecnico di Milano

David Bihanic
Université Paris 1
Panthéon-Sorbonne

Andrea Boeri
Alma Mater Studiorum
— Università di Bologna

Olindo Caso
Delft University
of Technology

Manuela Celi
Politecnico di Milano

Erik Ciravegna
Alma Mater Studiorum
— Università di Bologna

Mirko Daneluzzo
Dubai Institute of Design
and Innovation

Claudia De Giorgi
Politecnico di Torino

Alessandro Deserti
Politecnico di Milano

Dijon De Moraes
Universidade do Estado
de Minas Gerais

Franco Fassio
Università di Scienze
Gastronomiche di Pollenzo

Daniele Fanzini
Politecnico di Milano

Luigi Ferrara
George Brown College

Carlo Franzato
Pontifícia Universidade
Católica do Rio de Janeiro
— PUC-Rio

Giuseppe Furlanis
ISIA Design Firenze

Claudio Germak
Politecnico di Torino

Valentina Gianfrate
Alma Mater Studiorum
— Università di Bologna

Miaosen Gong
Jiangnan University

Christian Guellerin
École de Design Nantes
Atlantique

Roberto Iñiguez Flores
Tecnológico de Monterrey

Çiğdem Kaya
Istanbul Technical
University

Giuseppe Lotti
Università degli Studi
di Firenze

Mario Losasso
Università degli Studi
di Napoli Federico II

Roberto Montanari
Università degli Studi
Suor Orsola Benincasa
di Napoli

Nicola Morelli
Aalborg University

Andrew David Morrison
Oslo School of Architecture
and Design

Spartaco Paris
Sapienza Università
di Roma

Daniela Petrelli
Sheffield Hallam University

Andreas Sicklinger
Alma Mater Studiorum
— Università di Bologna

Francesca Tosi
Università degli Studi
di Firenze

Ambra Trotto
RISE — Research
Institutes of Sweden

Michele Zannoni
Alma Mater Studiorum
— Università di Bologna

Main partners

Latin Design Process

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA

Advanced Design Unit

DISEÑO | UC

MA DA Magister en Diseño Avanzado UC

Tecnológico de Monterrey
Escuela de Arquitectura, Arte y Diseño

diid

Related activities and projects

Winter School
Design for Responsible Innovation

BIOGRAFILM FESTIVAL
INTERNATIONAL CELEBRATION OF LIVES

Endorsers

Centro di Ricerca sulle Industrie Culturali e Creative
— Università di Bologna

Cumulus Association

New European Bauhaus

SID Società Italiana di Design

In collaboration with

DAMSLAB

Reviewers

The Proceedings of the 8th International Forum of Design as a Process have undergone a rigorous peer-review process to ensure the scholarly quality of the contributions contained herein.

The Editors extend their sincere appreciation to the following Scholars who served as Reviewers for this Digital Special Issue.

Tarek Abdellatif
Cosimo Accoto
Elena Alfaro
Giulia Allegrini
Margherita Ascari
Margarida Azevedo
Laura Badalucco
Silvia Barbero
Luca Barbieri
Esra Bici Nasır
Alessandra Bosco
Saveria Olga Murielle Boulanger
Sabrina Bresciani
Elena Brigi
Francesca Calabrese
Alberto Calleo
Alfredo Calosci
Serena Cangiano
Stefano Capolongo
Lina María Cárdenas
Paolo Cardini
John Cardozo
Giorgio Casoni
Andrea Cattabriga
Manuela Celi
Gabriel Cereceda
Simona Colitti
Pietro Costa
Doriana Dal Palù
Giorgio Dall'Osso
Dolly Daou
Antonio De Feo
Vanessa De Luca
Barbara Del Curto
Özgen Osman Demırbaş
Carmelo Di Bartolo
Loredana Di Lucchio
Amir Djalali
Alice Donferri Mitelli
Sergio Donoso
Seyedarshia Eghbali
Paola Fabbri
Daniele Fanzini
Anne Farren
Valentina Frosini
Rossana Gaddi
Vanessa Galvin
Silvia Gasparotto
Pamela Gatica
Gionata Gatto
Angela Giambattista
Valentina Gianfrate
Clara Giardina
Carlo Giardinetti
Debora Giorgi
Michael Gray
Pablo Hermansen
Oscar Huerta
Çiğdem Kaya
Elif Kocabıyık
Christopher Kueh
Kristina Lamour Sansone
Jennifer Lane
Carla Langella
Lorna Lares López
Beatriz Leal Ramos
Margo Lengua
Ruth Maribel León-Morán
Beatrice Lerma
Ami Licaj
Lígia Lopes
Anna Lottersberger
Stefano Luca
Patricia Mann
John Martin
Martina Massari
Mauricio Mejía
Paula Melo Signerez
Riccardo Mercuri
Leonel Merino
Giuseppe Mincolelli
Katharine Mollenhauer
Pierluigi Molteni
Carlos Montaña
Roberto Montanari
Edgardo Moraga
Alfonso Morone
Erica Isa Mosca
Federica Natalia Rosati
João Nunes Sampaio
Boon Ong
Giulio Palmitessa
Anty Pansera
Veronica Pasini
Amina Pereno
Merav Perez
Pier Paolo Peruccio
Bárbara Pino Ahumada
Davide Pletto
Gregory Polletta
Alessandro Pollini
Shalini Prasad
Diego Pucci
Nathalie Rodríguez Estrada
Valentina Rognoli
Maximiliano Romero
Ludovica Rosato
Ilaria Ruggeri
Francesca Sabatini
Mariana Salgado
Jorge Sanabria
David Sánchez Ruano
Romina Santi
Andreas Sicklinger
Leila Signorelli
Ricardo Sosa
Frank Spencer
Chiara Sponza
Laura Succini
Ermanno Tasca
Martin Tìroni
Umberto Tolino
Florencia Toro Silva
Beatrice Turillazzi
Elena Vai
Virginia Vignali
Paula Wuth
Burcu Yahız
Nélida Yanet Ramírez Triana
Michele Zannoni
Carola Zurob

Contents

14
The Latin Network for the Development of Design Processes

16
8th Forum Main Partners

18
Disrupting Geographies in the Design World

20
People

26
Impact

Track 1

There's No Plan(et) B: Sustainable Transitions to Systemic Planet-Centric Design

30
There's No Plan(et) B. Sustainable Transitions to Systemic Planet-Centric Design
Erik Ciravegna, Clara Giardina, Davide Pletto

40
Beyond Collaboration: A Network Analysis of Local Stances and Global Frameworks in the Collective Design of the City
Francesca Sabatini, Martina Massari, Saveria Olga Murielle Boulanger

50
Alter_Azioni: Designing between Biological and Artifactual. Scenarios for a Short-Term Future
Pietro Costa, Raffaella Fagnoni

62
(Systemic) Design for Sustainable Territorial Transition: A Literature Review of State of the Art
Asja Aulisio, Silvia Barbero, Amina Pereno

72
Dasein ist Design: An Ontological Discussion of Design in the Ecological Crisis Time
Sabrina Lucibello, Carmen Rotondi

80
The More-Than-Human Trend in Design Research: A Literature Review
Annapaola Vacanti, Francesco Burlando, Isabella Nevoso, Massimo Menichinelli

90
Being and Nature. The Aesthetic Ecocentrism
Adriano Pinho, Francisco Providência

102
Forward to the Primitive. New Sustainable Design Processes Characterized by Primitive Aesthetic
Jurji Filieri, Elisabetta Benelli

110
How Long Does It Take For a Paradigm Shift. A Design-based Critical Essay on Materials and Fabrication Processes
Guilherme Giantini, Lígia Lopes

118
Sustainability Needs Service Efficacity
Chiara Olivastri, Giovanna Tagliasco

126
Systemic Design Applied to Medtech. Guidelines for Corporate Training on Sustainable Healthcare
Enrica Ferrero, Giulia Ferrero

138
Reducing Waste in Healthcare: A Systemic Design Approach for Sustainable Disposables Manufacturers
Gabriele Maria Cito, Angela Giambattista

150
A Framework to Design Appliances for the Circular Economy Scenario
Chiara Battistoni

162
Digital Fashion Technologies & Practices: Design Driven Sustainable Transition in Fashion Industry
Ludovica Rosato, Alberto Calleo

170
Material Resources as a Contextual Complex System
Michele De Chirico

180
Diffuse Micro-Factory: Circular Distributed Production System for Microbial Nanocellulose
Lorena Trebbi

190
From Sea to Fashion. Seaweeds as Material for a Sustainable Transition
Paolo Franzo, Clizia Moradei

198
The Sound of Sustainability. Biomaterials and New Sensory Frontiers
Giovanni Inglese, Sabrina Lucibello, Carmen Rotondi

208
Unpacking Ceramic History in Asia and Europe: Contribution to New Reusable Packaging Design
Raquel Gomes, Cláudia Albino

Track 2

Intersectional Design for an Accessible and Empowering World

220
Intersectional Design for an Accessible and Empowering World: Views from the 8th Forum of Design as a Process
Valentina Gianfrate, Lígia Lopes, Margherita Ascari, Simona Colitti

226
Viva! Colinas. Service Design for Tourism and Reconciliation in Communities of Former Colombian Guerrilla
Beatriz Bonilla Berrocal

238
The Digital Archive as an Inclusive Tool for Knowledge Construction Through Design Practices
Alessandra Bosco, Fiorella Bulegato, Silvia Gasparotto

248
Intercultural Design Approach. Narrative Design for a Multicultural Society
Irene Caputo, Marco Bozzola, Claudia De Giorgi

258
From Wayfinding to Placefinding. Orientation and Alterity in Urban Spaces
Daniela D'Avanzo, Salvatore Zingale

268
A Meta-Analysis for an Interactive, Intersectional and Inclusive Exhibition Based on the SDGs
Sergio Degiacomi, Francesca Zoccarato, Simone De Pascalis, Pietro Crovari, Fabio Catania

278
From Empathy to Inclusive Design: Multisensory Solutions for (Not Only) Socially Sustainable Projects
Federica Delprino

288
Etnography in Sever Do Vouga: Reality<>Change First Step to Engage a Creative and Rural Community
Pedro Fragoso Lopes, Gonçalo Gomes

298
The Implementation of U.D. in a Metal Processing Plant of the Metropolitan Zone of Guadalajara (MZG)
Luis Erik Hernández Sánchez, Enrique Herrera Lugo, Jaime Francisco Gómez Gómez, Francisco Javier González Madariaga

312
Towards Better Public Sector Innovation. Co-designing Solutions to Improve Inclusion and Integration
Ilaria Mariani, Francesca Rizzo, Grazia Concilio

322
Creating Methodological Design Processes for Empowering Artisans of Cali, Colombia
Edgar Andrés Martínez Muñoz, Diana Marcela Giraldo Pinedo

332
Empowering Through Design: Regional Development Strategy of Los Lagos as an Intersectional Case
Daniel Moreno, Katherine Mollenhauer, Arturo Orellana

344
Inclusive Merchandising. A Storyteller for an Accessible University
Monica Oddone, Marco Bozzola, Claudia De Giorgi

354
Geopolitics of Fashion. Glocal Power Evidence and Design Activism for Leading Disrupting Textile Debris in Chile
Bárbara Pino Ahumada

366
Intersectional Design in Practice: A Critical Perspective on Sustainability for All
Alessandro Pollini, Pilar Orero, Alessandro Caforio

374
Empower to Care or Care to Empower? The Theory Behind the Practice That Transforms
Marcia Santos da Silva, Gustavo Severo de Borba

384
Perspectives of Sound: Promoting Social Inclusion Under the Principle of "Access for All" in Museums
Yi Zhang, Raffaella Trocchianesi

Track 3

Design and Responsive Technologies for Human Wellbeing

396
Design and Responsive Technologies for Human Wellbeing
Mirko Daneluzzo, Michele Zannoni, Giorgio Dall'Osso, Silvia Gasparotto

406
Counterpoint. Are We Sure That All These Data Are Good for Us?
Antonella Valeria Penati, Carlo Emilio Standoli

418
Sustainable Data-Driven Strategies and Active Well-Being: A Case Study
Giuseppe Mincolelli, Gian Andrea Giacobone, Michele Marchi

426
Are You Me? Re-Embodiment Process for Telepresence Robots
Lorenza Abbate, Claudio Germak

440
From Applications to Implications: Design as a Process for Humanising Future Robotics
Christiam Mendoza, Roberto Íñiguez Flores, Ruth León Morán

450
Data Driven Design: From Environment to the Human Body
Elena Cavallin

458
IF THIS THAN THAT Broken Linear Logic. Rethinking and Representing the Design Process
Margherita Ascari, Andrea Cattabriga, Simona Colitti, Ami Liçaj

468
Responsible Tech Innovation Through Design: A Participative, Reflective, and Systemic Approach
Jane Vita, Tiina Mäkelä, Teemu Leinonen

478
(Re)Active Materials. Well-Being's Concept Evolution and Advanced Material Innovations
Noemi Emidi

490
Mixed Reality as Activator of Collaborative Processes for Transcultural Future
Alessandra Miano

500
Exhibitions as Hybrid Environments. Exploring Situated & Embodied Interaction in Cultural Heritage
Letizia Bollini, Marco Borsotti

512
Ethnographic Study: Finger Food Systems, Contribution to a Project Program in Food Design
Lígia Afreixo, Francisco Providência

522
PASSO Project: Design of a Smart System Using Biofeedback to Train People with Parkinson's Disease
Silvia Imbesi, Giuseppe Mincolelli

532
Pathos: A digital service to improve women's hospital experience
Elisa L'Angiocola, Angela Giambattista

544
Brain Training, Mindfulness, and Wearables: Empowering Employee Wellbeing Through Neurotechnologies
Francesca Bonetti, Giorgio Casoni

554
The Augmented Body: Technological Contamination in the Fashion-Tech Paradigm
Elisabetta Cianfanelli, Margherita Tufarelli, Elena Pucci

564
Health Communication as Apo-Mediation. The Impact of Communication Design on Health Prevention and Perception
Daniela Anna Calabi, Alice Maturo

Track 4

Design Values Out of the Mainstream: New Geographies of Influence

578
Design Values Out of the Mainstream: New Geographies of Influence
Qassim Saad, Andreas Sicklinger, Lorela Mehmeti

588
An Analytical study to develop the traditional craft in the field of creative industries in Egypt
Hoda Aman

600
Enhancing social well-being through social innovation approach and design expertise: a case study for social innovation in a local district in Turkey
Yagmur Gizem Avci, Ece Cinar, Cigdem Kaya

610
Cultural Factories: Conversion of Industrial Areas into Cultural Hubs
Eva Vanessa Bruno, Beatrice Lerma, Doriana Dal Palù, Claudia De Giorgi

620
Bahrain Knowledge Bay. Using Design Thinking to Establish an Infrastructure Towards Knowledge Economy
Halim Choueiry

630
Culture and creativity as assets for inclusive growth in small and remote places: a design-led process
Annalinda De Rosa, Davide Fassi

640
Culture-based Innovation: A Localized Approach for Designing
Alaa El Anssary, Ahmed Wahby

650
Burning approaches to tensing the present: a new political dimension of design
Fabiana Marotta

658
Design Resistance. Material Solutions for local remoteness
Martina Taranto, Barbara Pollini, Valentina Rognoli

668
How Should Technology Follower Companies of Developing Countries Innovate Through Design Capability?
Bilgen Tuncer Manzakoğlu

680
Subjectivation and cities: relationships between local independent fashion and Possible Future Scenarios
Paula Visoná, Mágda Rodrigues da Cunha, César Kieling

Track 5

New Education Pathways for Future Designers in a Changing World

696
New Education Pathways for Future Designers in a Changing World
Valentina De Matteo, Elena Formia, Roberto Iñiguez Flores, Laura Succini

706
Decolonizing the Design Process: A Case Study in Authorship, Power, and Control
Scot Geib

714
OpenMind Handbook. A System of Design Tools and Processes to Empower Democracy Culture in Primary Schools
Valentina Facoetti, Laura Galluzzo, Ambra Borin

724
Architecture, Design and Community in Colombia. More Urban, More Rural, More Social: The Workshop Experience
Sasha Londoño-Venegas, Adriana Jaramillo Botero

736
Creative Community for Generation Z Teachers in Brazil Through Strategic Design
Lara Maria Luft, Debora Barauna, Gustavo Severo de Borba

746
Design Thinking and Career Development: A Comparative Study
Clio Dosi, Eric Guerci, Jacek Jakieła, Joanna Świętoniowska, Eleni Vordou, Maria José Varadinov, Matteo Vignoli, Gastão de Jesus Marques, Joanna Wójcik

760
Design Processes: From the Historical Perspective to the Application in Startups Companies
Isabela Moroni, Amilton Arruda

772
Design and Innovation: Where Do We Want to Play? Inquiry Into Some Design's Strengths and Weaknesses in Innovation
Marco Limani

782
Design Ecosystem in Portugal. Education, Research and Entrepreneurship
Marlene Ribeiro, Francisco Providência

790
The Design Posture: A Collaborative Learning-By-Doing Approach
Rita Duina, Marco Berni, Andrea Del Bono

798
Advanced Manufacturing for Sustainable Fashion. Developing Interdisciplinary Educational Experiences
Daria Casciani

810
Co-designing Contents With Situated Stakeholders: An In-Field Process in Nolo (Milan)
Davide Fassi, Francesco Vergani

820
Creativity and Mirror Effect: Teaching Creative Skills Through Non-traditional Pedagogies
Alejandra Amenábar Álamos

830
How Design Thinking Could Benefit Future Educational Environments in a Post-Pandemic Era?
Yuqing Zhu, Yunyu Ouyang

840
How a Technology Identity Can Enhance the Diffusion of Good Design Practices in Product Sound Design
Daphne Degiorgis, Marco D'Addario, Beatrice Lerma, Doriana Dal Palù

852
Learning and Teaching From and by Social Media. Instagram to Support Blended Learning Models
Vittorio Linfante, Andrea Manciaracina

864
Education & Practice in Open Design. Improving the Learning Experience Through Knowledge Connections
Fabrizio Valpreda

876
You Can Never Solve Problems With the Same Mindset That Created Them. How Can We Change the How and the What We Teach to Enable Our Students to Become Truly "Terrestrial" Designers? A Proposition Following Bruno Latour's "Terrestrial Manifesto"
Angela Grosso Ciponte, Evelyne Roth

884
Good for Good. Designing Packaging in the Era of Deliveries
Loredana Di Lucchio, Ivo Caruso

896
Onboarding Future Systemic Innovation Designers Through Informal and Collaborative Activities
Leonardo Moiso, Sofia Cretaio, Cristina Marino, Chiara L. Remondino, Paolo Tamborrini

908
Material Practices in Transition: From Analogue to Digital in Teaching Textile and Fashion Design
Delia Dumitrescu, Martina Motta

918
Designing for the Future of Education Through Cultural Heritage
Nour Zreika, Daniele Fanzini

928
We Need to Talk About Learning Design. A Proposal for Critical Conversation
Suzanne E. Martin

938
Collaborative Learning of Ph.D. Candidates in Design on Emerging Scenarios in Scientific Publication
Eleonora Lupo, Sara Radice

948
Scenarios, Networks and Systems: An Alternative to Dichotomous Patterns
Liana Chiapinotto, Fernando Guimarães Horlle, Tássia Ruiz, Celso Carnos Scaletsky

Collaborative Learning of Ph.D. Candidates in Design on Emerging Scenarios in Scientific Publication

Eleonora Lupo
Politecnico di Milano
eleonora.lupo@polimi.it
ORCID 0000-0003-3677-0245

Sara Radice
Politecnico di Milano
sara.radice@polimi.it
ORCID 0000-0003-4873-4356

Abstract
The article describes a collaborative learning process aimed at introducing early stage researchers in design to a non-hegemonic approach to design knowledge production and publications. Four co-creation sessions has been held in the context of *Prode* project, engaging phd students in design to take in account emerging issues in scientific publishing. In specific an innovative *Living publication lifecycle* has been introduced (supporting an iterative model for publications) and the relative *Living publications scenario* (including Augmented publications; Collective authoring; Evolving publications; Publications reuse) has been used to discuss and disrupt traditional publication patterns and envision beyond the "article" format, new typologies of (not only textual) research products and new forms of dissemination, to meet the challenges of an impactful design education. The context of change of scientific publication and hypothesis underlying the paper have been discussed elsewhere (Lupo, 2022; Lupo, 2023). For the purpose of this article, the focus is the training of early stage researchers, in order to make them aware of the potentiality of plurality and diversity of design knowledge publication. The collaborative approach and tools adopted eased the empowering of the PhD students through brainstorms, role plays and hands-on tests.

Keywords
Scientific publishing
Living publication lifecycle
Publication ecosystem
Co-creation methodology
Publication impact

Copyright © 2022
diid disegno industriale
industrial design
CC BY-NC-SA

The digital transformation and the open access paradigm (Max Planck Gesellschaft, 2003). have a considerable impact on the circulation of high-quality scientific publication at global level: in this scenario high-impact and effective scholarly communication need to be pursued with a hybrid media and content strategy, in order to get an extended impact, while maintaining rigour and authority. New trends therefore emerged (Kim et al., 2018), also questioning the oligopoly of academic publishing (Larivière, Haustein & Mongeon, 2015).

In the design domain too, these changes are asking for a deep knowledge dissemination, fostering new discourses and representations on design (i.e., "viscourses", Bonsiepe, 2007, p.36). Hence, in the years 2020-22 the *Prode* project[1] has been carried out within the Design Dept. of Politecnico di Milano, with the aim of discussing the contexts in which scientific design knowledge is produced and made accessible (particularly in traditional academic and scientific journals) and proposing new visions and opportunities for scientific publications in the design field.

The state of art of scientific publication transformation and the leading hypothesis underlying the research have been discussed elsewhere (Lupo, 2022; Lupo, 2023) and here will be only briefly recalled.

Scholarly discourse, which was once restricted to printed texts, is now being produced in a variety of formats, including short videos, information visualisations, and networked writing: new types of journal articles (visual essays, video articles) or article elements (graphic abstract, interactive pdf), dynamic and contributive publication formats (Heller, The, & Bartling, 2014) and moreover new typologies of publishable research products (e.g. OpenAireExplore research products categories: protocols, software, data set, models...). Many open access publishing platforms and infrastructures have been established and have gained scientific recognition and reliability (Open Research Europe, 2021). According to these changes, scholars talk about the need to think of scholarly knowledge as an ecosystem (Altman & Cohen, 2022), proposing a holistic and integrated approach to scholarly communication (Birdsall et al., 2005).

In the design domain, the reflection is monitoring trends in journal expansion, in the increase and acceleration of publishing, as well as improvements in the quality of publication (Cross, 2019; Atkinson, Valentine, & Christer, 2021). Anyway, apart from more efficient editorial management systems, the patterns of scientific publishing in design are remarkably stable (Gemser, & De Bont, 2016) and the journals format, or the concept of publications, remains attached to the idea of traditional articles (Lupo, Gobbo & Lonardo, 2021). Finally, quality of perception, visual designs and reading experiences of design journals can be improved (Gemser et al., 2016; Barness & Papaelias, 2021).

We strongly believe that the design discipline can be a pivotal field for the experimentation and discussion of new scientific publication formats for scientific research.

Therefore *Prode* project started a reflection around the following hypotheses:

1 *Innovative forms of publication*: Envisioning and supporting innovative (e.g. augmented, enriched, interactive, contributive and collectively-authored) forms of publication, as mixed media ecosystems of content, optional and complementary to traditional linear articles. Strengthening the impact by supporting the discoverability and re-usability of knowledge beyond mere citation and critically approaching AI and content creation.

2 *Plurality of design publications*: Promoting choral narratives on contemporary design, for instance representing the plurality of editorial platforms, journals, initiatives, and publications from different geographies outside the mainstream.

3 *New models for quality and impact assessment*: Reshaping the evaluation and quality assessment of new publication forms, basing it primarily on qualitative evaluation and responsible use of quantitative indicators and by conferring the same level of academic credibility and accreditation that traditional articles receive.

Especially young researchers need to be aware and attentive of the current and emerging practices concerning scientific publications and the related issues and opportunities: therefore, with the precise intention of educating and training early stage researchers in the design field, in Nov. 2021, in the context of the *Prode* project and the course "Scientific Production", within the Ph.D. program in Design of Politecnico di Milano, a specific module on the topic of emerging formats of scientific publication has been arranged. The module has been organized as a design-driven and collaborative model of education while engaging Ph.D. candidates in the envisioning phase of the research. In doing so, we wanted to introduce early stage researcher in design to a non-hegemonic approach to design knowledge production and publication, considering also the scientific, academic and cultural implication of new publishing formats validation (from technical, practical and legal feasibility, regarding especially assessment, reviewing procedures and copyright issues); this rethinking at the same time new educational co-created frameworks in which designer can apply their productive thinking and have an impact on collective learning systems and processes.

For the purpose of this article therefore, the focus is exclusively on the training of those early stage researchers, especially about the topic of innovative formats of publication and on the two theoretical outcomes of the research: the *Living publication lifecycle* and the relative *Living publications scenario* (described in the next section).

An Innovative Lifecycle and Ecosystem of Content for Scientific Publications: The Living Publication Scenario

The *Prode* project focused on envisioning two key concepts related to scientific articles: the publication lifecycle and the article as an "ecosystem of content". Methodologically, case studies research and inductive reasoning have been used for exploring and envisioning new stages in the lifecycle and new scenarios of content. Mock-up, prototyping and testing have been used for the production of a beta-model of a new publishing format. This process ended up with the

proposition of the *Living publication lifecycle* and the relative *Living publications scenario*. We aim these modalities will complement the ones already in use by academic and scientific journals on a regular basis, to promote a cultural shift in scholarly and scientific publication toward open science.

The *Living Publication Lifecycle* Fig. 1 has been envisioned, from an initial case studies research (Lupo, Gobbo & Lonardo, 2021), as a circular lifecycle model, including all the stages present in the various models and inserting new ones.

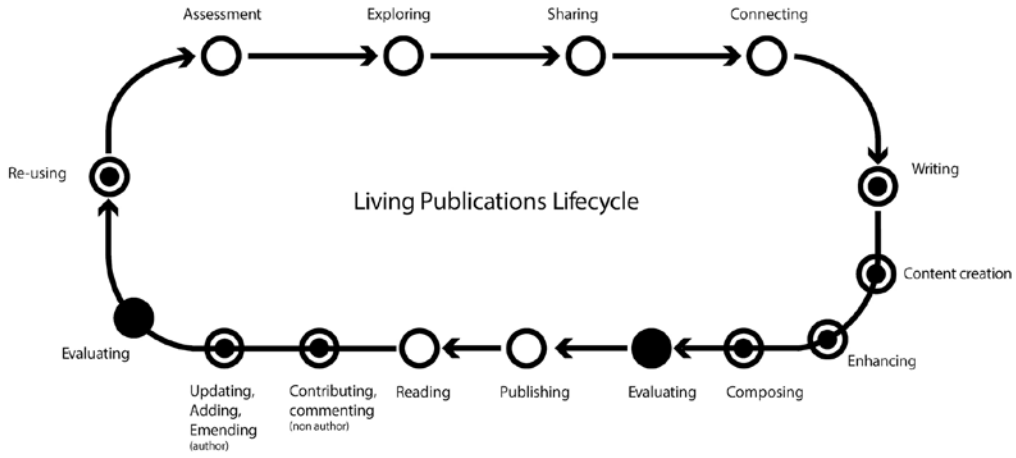


Fig. 1
The *Living publications Lifecycle*, by Authors.

The Living publication lifecycle is an iterative approach to publication, that enables in an open way the co-creation and co-contribution paradigms in the circulation, use of re-use of scientific contents. For doing this, the lifecycle stages are empowered by including new stages and innovative features and functionalities to support the shift from closed articles to multi-layered and growing publications, explaining the idea of liveability.

According to this lifecycle, a new scenario for the scientific publications has been designed as well: the *Living publications scenario*. In this scenario, open publication models allow (at the same time):

1 to explore in innovative and interactive way the content;
2 to enable flexible and dynamic writing processes, also by editing minimum discrete units of content (textual *and* non-textual) *and* by collective authoring ;
3 to permit to augment and enhance those content;
4 to reuse content;
5 to assess contents along all stages of the lifecycle.

Within the scenario, four specific trends, complementary each other, have been identified Fig. 2:

- Augmented publications;
- Collective authoring;
- Evolving publications;
- Publications reuse.

diid DSI No.1 — 2023
Doi: 10.30682/diiddsi23t5q

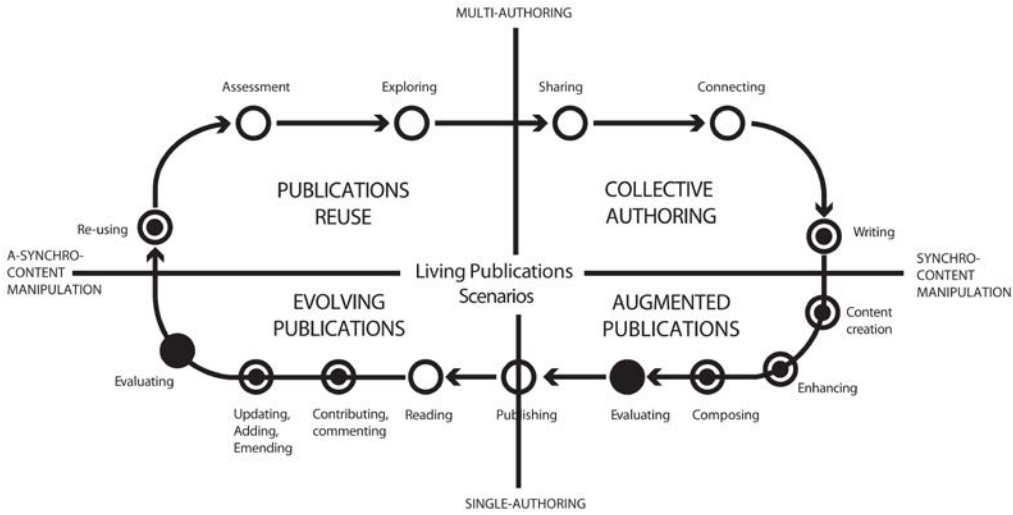


Fig. 2
The four trends of the *Living Publications Scenario*, by Authors.

The educational training proposed to the Ph.D. candidates in design, based on collaborative learning and a hands-on approach, has been focused on the experimentation of the more innovative stages of the *living publication lifecycle* of the scientific publication, and on the four emerging trends of the *Living publication Scenario*.

The four trends have been selected as the most interesting for educational purposes because they deal with publication lifecycle stages that imply an active role of the authors and a direct impact on the content manipulation.

The Augmented Publication scenario involves all those innovative practices of enriching a publication, by embedding media, visualisations, links, datasets, but also creating non-only- textual content, such as visual essays, video articles, up to articulating and structuring the final scientific publication, by creating an ecosystem of mixed media content. Relevant cases for this scenario are, beside traditional supplemental material encouraged by the most of publishers, new visual format (visual essays, visual case discussion) and above all new content ecosystem e.g., *Stanford Digital Projects* launched in 2016 by Stanford University Press or the *Journal of Artistic Research.*

The Collective Authoring scenario deals with collective authoring processes, co-authoring a publication or contributing to a non-authored publication. A relevant case for this scenario is the concept of *Open Annotation* by Hypothesis (https://web.hypothes.is/).

The Evolving Publication Scenario implies processes and tools to modify post-publication an authored article by scaling up discrete minimal content, adding new content data, case studies...), or updating (bibliography...), re-editing, emending (correcting mistakes...) data and content. Relevant case for this scenario are the *Evolving article* concept by Elsevier and the Dynamic Publication Formats of the Opening Science Project (Heller, The, & Bartling, 2014).

The Publication Reuse scenario deals with reusing publications content (over citation) for producing new original content ecosystems, by remixing, embedding, linking (tracking attribution and

authorship). Relevant cases for this scenario are again the Dynamic Publication Formats of the Opening Science Project (Heller, The, & Bartling, 2014) and the concept of *Supporting or contradicting citation* by Scite (https://scite.ai/).

Methodology. Designing Co-creation Sessions as the Educational Training for Ph.D. Candidates in Design

Focusing on these four trends of the *Living Publications Scenario*, four co-creation sessions were designed and ran with a group of ten Ph.D. candidates in Design of Politecnico di Milano, with a twofold objective:

1 Enabling an effective training of Ph.D. candidates on the subjects of the research, by using a design-driven and collaborative model of learning;

2 Incorporating into the research design process a group of people — early-stage researchers — who are among the target audiences of the research itself.

At the envisioning stage of the research, the purpose of these co-creation sessions was therefore to incorporate young researchers themselves into the design process, not just for sharing ideas and opinions, but for empowering them through brainstorms, role plays and hands-on tests, while getting them engaged around the open questions and issues related to emerging and possible future publication formats, that would arise during the sessions.

Additionally, in this specific situation, the effectiveness of the co-creation sessions was amplified, as all the participants of the co-creation sessions were early-stage researchers in the design disciplinary domain (and, furthermore, some of them were also design professionals). This circumstance made it possible to exploit the participants' disciplinary-specific creative thinking, as applied both to the development of the research design process and to the tweaking of the used design-driven and collaborative model of learning, for its possible future structured use.

Each session, lasting overall about four hours, was planned to be conducted in a hybrid mode — in person and online — and was structured in the following subsequent stages:

- A brief lecture introducing the theme of the session: 1) *Augmented publication;* 2) *Collective authoring;* 3) *Evolving publication;* and 4) *Re-using, over citation,* and the explanation of relevant related case studies.
- Round talks, a two-minutes presentation performed by each participant about a personal article they would like to work with during the session.
- "What if" activity, during which participants, divided into small groups of 2-3 students, work both on individual and other participants' articles, using a pre-set Miro board as a practical tool for collective visual annotation Fig. 3. The focus of this activity is to explore and discuss which actions authors must perform and *what* kind of contents and in which formats they have to use for augmenting, collective authoring, evolving, and re-using a publication, and *why* they should want to do so.

- Conversation starters, aimed at getting a reaction and sparking dialogue among participants, typically about the difficulties they encountered or might encounter during the previous stage.
- Guided brainstorm and final collective discussion.

Results. Execution, Evidence, and Criticalities of the Four Co-creation Sessions

The scheme described above, worked overall well for effectively engaging the participants about the general subject of the research and the topics addressed in the four sessions. In fact, from each session specific matters and critical suggestions emerged both at theoretical and practical level, also achieving the goal of involving young researchers — through these co-creative sessions — into the research design process itself.

The ideas that emerged from the four co-creation sessions, originally formulated by the participants as related only to their specific paper, have been then generalized by the authors for their possible application also to the contexts of other scientific productions.

Among the problems highlighted by the Ph.D. candidates during the co-creation session on *Augmented publication*, those considered to be most relevant, are related to "*how"*, at a practical level, it would be possible to *link*, *embed*, *compose*, etc., various media into a published and already structured article. In response to this challenge, from the guided brainstorm, emerged the possibilities of providing authors with templates with different format examples to choose from, as well as structures of contents to facilitate the composing of enhanced contents. According to participants, the main reasons *"why"* an author should be willing to augment a publication, include: having more space to put contents in short papers; having a better way to present produced content; visualizing a complex premises; making it easier for the reader to understand some concepts; giving proof of evidence through additional embedded and interactive contents to research questions, hypotheses, and outcomes.

During the second co-creation session about *Collective authoring*, the key concept of *Minimum Units of Content* emerged, defining "*what"* kind of content an author can contribute to others' articles: an organized, standing alone, discrete unit of content that can also be reused for publication and whose authorship is recognized. This definition includes, for example, a case study discussion or a reference to literature, in which it is specified the relevance and the original idea of the contributor is clearly expressed, excluding thus, for example, a simple comment, which does not add a new layer of knowledge to the existing publication.

Within this envisioned ecosystem of publishing, comments to others' articles are allowed in the foreseen context of an open platform model, whose users belong to an identified scientific community, in order to prevent sterile criticism, while avoiding the need of moderation.

Thanks to the Ph.D. candidate feedback and insights after the *what-if* activity, during the third co-creation session on *Evolving publication*, the differences among *augmenting* and *updating* were

stressed. Though the practical tools required for performing these actions could be the same, the contexts and the reasons for doing it are different: while *augmenting* an article can occur both before and after the publication, *updating* can occur only after the publication, in order to u*pdate, add, emend, modify, or re-edit* an article because, for example, new content is available, or peers asked for changes.

During the fourth co-creation session on *Re-using (over citation),* the final discussion focused on the actions-phases of re-using and embedding, exploring the feasibility of some metaphors of organization of contents (maps, timelines, stories, canvas, boards...) within the concept of "remixing", emphasizing the hint that authors should be fully aware that *composing* within this publishing ecosystem, necessarily involves making new meaning to personal and other authors pieces of contents (*Minimum Units of Content*). In this sense, most Ph.D. students argued that the architecture of contents should come from authors, and the metaphors should support it, and not influence it, leaving open the question if having a template structure could be inspiring for authors or, contrariwise, it can influence the composition of contents.

Overall, besides the specific matters that emerged from each session, the main discussed issue — transversal to the four trends of the *Living Publications Scenario* — concern the essential theme of authorship (e.g., "How is it possible to provide scientific validation to the augmented content within the current publishing system?"). The concept of *Minimum Units of Content*, which originates during the sessions, could partly address some of the open questions related to control over contents.

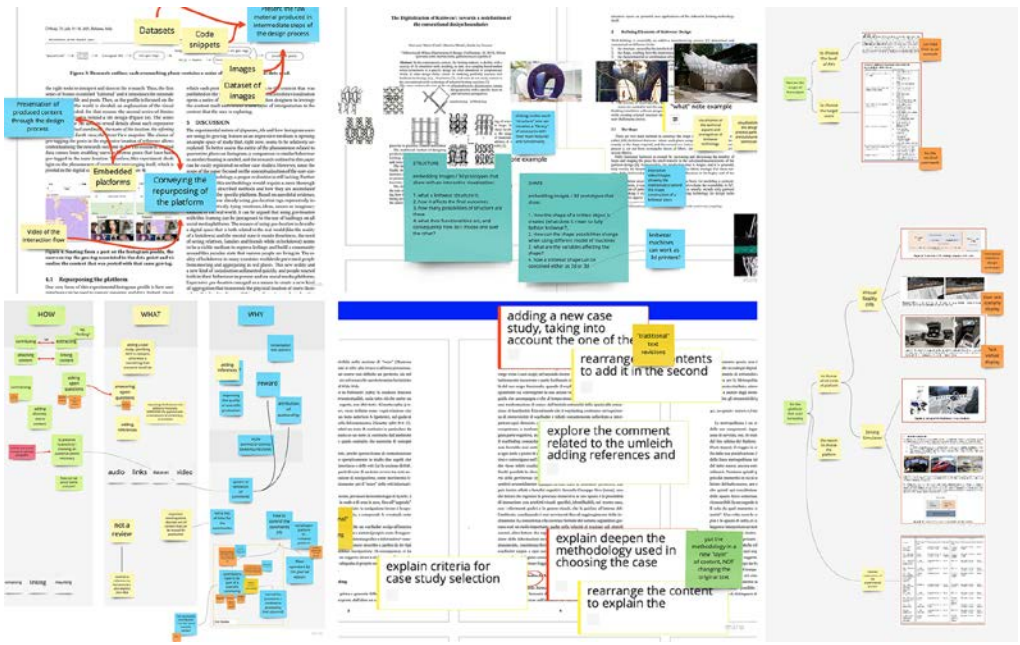


Fig. 3
Examples of the visual annotations made by participants on the paper used as actual case study for the session and visual annotation of the collective discussion, by Authors.

diid DSI No.1 — 2023
Doi: 10.30682/diiddsi23t5q

Conclusion

In this article, after briefly introducing the reasons for looking at new ways of publication in the design field and some challenges to overcome, we stressed the importance of designing innovative training formats for early stage researchers (Ph.D. candidates) on these emerging trends in scientific publication.

To answer to the challenges of this new publication scenario is beyond the scope of this article, and we provide some responses elsewhere (Lupo, 2022; Lupo, 2023; Formia, Lupo & Mehmeti, 2023). Here we presented as possible response to the specific need of training the design community in the topic, the organization and development of structured co-creation sessions within the Ph.D. program on Design of Politecnico di Milano, whose content has been based on the first outcomes in terms of case studies and scenarios of the Prode research project.

We argue that the participative format was beneficial both for the Ph.D. students and for the project advancement: the creative sessions participants' disciplinary-specific creative thinking, revealed to be effective in stimulating discussions oriented to achieving practical outcomes, which were considered in the envisioning of the living publication platform.

The research and reflection about how scientific production and publication in design is renewing and transforming to better respond and serve to the needs of the research community is ongoing in various venues (a national research group within the SID-Società Italiana di Design), a panel in the International Conference IADSR 2023, a regular call for article in *PAD journal*) in order to keep a more structured institutional dimension after the completion of the funded project.

The works concerning the design of the living publication have been advanced, starting from the design of the architecture of a web-based platform, the needed software components; the definition of the functionalities and the patterns of access and navigation within the platform, available for the different types of users; and the development of an interactive detailed mock-up (Radice, 2022). This prototype will go again under usability testing and discussion.

The overall educational aim of the project includes also the planning of other dissemination tools and seminars at national level (ongoing), and a more specific and formally structured educational training about the living publication scenario for Ph.D. candidates (planned for Oct-Nov. 2023).

Acknowledgements

The essay is the result of a joint work of the two authors. In particular, Eleonora Lupo wrote sections 1 and 2, and Sara Radice wrote sections 3 and 4. The two authors jointly wrote section 5.

Eleonora Lupo
Designer, Ph.D. in Disegno industriale e comunicazione multimediale, is Associate Professor in Design at Politecnico di Milano. Her main research interests are focused on Humanities and Culture Driven Innovation, Design for Cultural Heritage and Product and Processes Design Cultures.

Sara Radice
Ph.D. in Design, she has been involved in national and international research projects, consulting, and teaching activities at both public and private institutions, mainly in the cross field of design and cultural heritage, in digital and physical settings.

References

Altman, M., & Cohen, P. N. (2022). The Scholarly Knowledge Ecosystem: Challenges and Opportunities for the Field of Information. *Frontier in Research Metrics and Analytics*, *6*. https://doi.org/10.3389/frma.2021.751553

Atkinson, P., Valentine, L., & Christer, K. (2021). All Change: Reflections on Design Research Journal Publishing, 2014–2021. *The Design Journal*, *24*(6), 833-841.

Barness, J., & Papaelias, A. (2021). Readable, Serious, Traditional: Investigating Scholarly Perceptions of the Visual Design and Reading Experiences of Academic Journals. *She Ji: The Journal of Design, Economics, and Innovation* *7*(4). 540-564.

Birdsall, W. F., et al. (2005). Towards an Integrated Knowledge Ecosystem: A Research Strategy. In *Towards an Integrated Knowledge Ecosystem: A Canadian Research Strategy, A Report Submitted to the Canadian Association of Research Libraries* (Chapter 7). Wayback Machine.

Bonsiepe, G. (2007). The uneasy relationship between design and design research. In R. Michel (Ed.), *Design Research Now: Essays and Selected Projects* (pp. 25-39). Berlin-Basel: Birkhauser.

Cross, N. (2019). Editing Design Studies — and how to improve the likelihood of your paper being published. *Design Studies*, *63*, A1-A9.

Formia, E., Lupo, E., & Mehmeti, L. (2023, October 16-20). Designing Pluriverse Knowledge in Design Research [Conference presentation]. *15th International Conference of EAD*.

Gemser, G., & De Bont, C. (2016). Design-Related and Design-Focused Research: A Study of Publication Patterns. *She Ji: The Journal of Design, Economics, and Innovation*, *2*(1), 46-58.

Heller, L., The, R., & Bartling S. (2014). Dynamic Publication Formats and Collaborative Authoring. In S. Bartling, & S. Friesike (Eds.), *Opening Science* (pp. 191-211). Springer.

Kim, S., Chung, E., & Lee, J. Y. (2018). Latest trends in innovative global scholarly journal publication and distribution platforms. *Science Editing*, *5*(2), 100-112.

Larivière, V., Haustein, S., & Mongeon, P. (2015). The Oligopoly of Academic Publishers in the Digital Era. *PLOS ONE*, *10*(6).

Lupo, E. (2022). Changing Scientific Production in Design. *Diid — Disegno Industriale Industrial Design*, (78), 24.

Lupo, E. (2023). Innovating the scenario of scientific publishing in design: designing "living publications". *Strategic Design Research Journal, 15*(2), April–June 2022. 198-217.

Lupo, E., Gobbo, B., & Lonardo, E. (2021). Towards a new design culture of scientific production — Innovating the formats of scientific publication of design. In L. Di Lucchio, L. Imbesi, A. Giambattista, & V. Malakuczi (Eds.), *Design Culture(s). Cumulus Conference Proceedings Roma 2021*, *Volume #2* (pp. 1082-1097). Roma. Università La Sapienza.

Max Planck Gesellschaft (2003). *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities.* Open access. https://openaccess.mpg.de/Berlin-Declaration

Radice, S. (2022). Prode Project: a living article publishing platform. *Diid — disegno industriale industrial design*, (78), 62-73.

Published online in September 2023

DIGITAL SPECIAL ISSUE 1

The 8th International Forum of Design as a Process, themed "Disrupting Geographies in the Design World" was held in Bologna from 20 to 22 June 2022. The event was organised by the Advanced Design Unit of the Alma Mater Studiorum – Università di Bologna, Department of Architecture, in collaboration with two partner universities: Tecnológico de Monterrey (TEC) and Pontificia Universidad Católica de Chile.

The Forum engaged speakers from the Global Design community, expanding the original vocation of the Latin Network for the Development of Design as a Process to include researchers and designers of the Mediterranean Area, Middle East, IOR (Indian Ocean Region), and Global South regions. The goal was to share new perspectives on imagining design futures in a responsible and just perspective, at the forefront of change, while building strategic partnerships and creating accessible knowledge.

Structured around three pillars — seminars, workshops, and exhibitions — the Forum hosted meetings, reflection opportunities, networking activities. It involved designers, scholars, young researchers, design entrepreneurs, in an experimental format.

Speakers' contributions not only inspired the practices of the designers' community, but also resonated with students and the broad audiences. The presentations explored intersections of materiality and culture, post-coloniality, decoloniality, gender studies, and other areas of human thought and action which seek to analyse, question and challenge the disruptive geographies in the world, today.

The papers submitted to the five tracks proposed are published in the Digital Special Issue 1 of *diid. disegno industriale – industrial design*, celebrating during those days its 20th anniversary and serving as the fourth partner of the event.

The Editors
Erik Ciravegna, Elena Formia, Valentina Gianfrate, Andreas Sicklinger, Michele Zannoni

DSI No. 1 — 2023
Year XXI
ISSN 1594-8528
ISSN Online 2785-2245
ISBN Online 979-12-5477-329-1

Bologna University Press