

# III TWR CONFERENCE

TRANSDISCIPLINARY WORKPLACE RESEARCH

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Chiara Tagliaro, Alessandra Migliore and Rossella Silvestri (eds.)

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Department of Architecture and Urban Studies  
Department of Management, Economics and Industrial Engineering

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Chiara Tagliaro, Alessandra Migliore and Rossella Silvestri (eds.)

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## PREFACE

In the wake of the COVID-19 pandemic, radical changes in the ways of working have rapidly put the workplace at the centre of a profound debate over its function and *raison d'être*. More than ever, employers, consultants, and researchers have acknowledged the necessity for a transdisciplinary approach to advance knowledge and practice in this area and foresee a reasonable evolution of the workplace.

These Proceedings address such pressing issues by collecting the most recent knowledge advancements in this field that were presented at the III Transdisciplinary Workplace Research (TWR) Conference, held in Milan, Italy, from September 7<sup>th</sup> to 10<sup>th</sup> 2022.

The Conference brought together work environment experts in a wide range of disciplines, from both academia and practice, in line with the spirit of the Transdisciplinary Workplace Research (TWR) Network ([www.twrnetwork.org](http://www.twrnetwork.org)), whose aim since 2017 has been to encourage the convergence of the various aspects of the workplace that are usually studied in isolated academic and professional fields. The idea of the Network is that design and operations of healthy and productive working environments not only take individual economic, personnel, design, or technical-communicative aspects into account; integrative approaches beyond disciplinary paths are also necessary. Moreover, practical experience must underpin a sound evidence-based approach to research, in order to overcome the traditional theory-practice dichotomy. The TWR Network has an international board which contributes to expanding the types, methods, and reach of workplace studies, finding common paths across countries, and enhancing the differences among them.

With this aim, the TWR Network organizes a biannual conference that is brought every year in different parts of the world. After the first TWR Conference (2018) in Tampere, Finland, and the second one (2020) in hybrid form between Frankfurt and online, this year's conference took place in Milan, Italy, hosted by Politecnico di Milano.

The III TWR conference included a multiplicity of topics, regarding the physical work environment (such as architecture and design, building physics, material science), social work environment (such as human resources management, behavioural sciences, organisational science, business, health and safety, neuroscience, environmental psychology, philosophy), digital work environment (such as information communication technology, virtual reality, sensor engineering, data analytics), and management of the built environment (such as asset, facility and property management, economics, corporate real estate management, decision science). Presented research focused on an individual, team, organisational or urban level of analysis.

The tangible outcome of this initiative is this publication: the Proceedings of TWR 2022 gather all the 80 contributions that were included in the Conference program after a thorough selection of 120 submitted abstracts.

A special thank goes to all authors and reviewers for their diligent participation in the double-blind peer review process. On the one hand, all the authors presented original investigations described concisely and effectively. On the other hand, all the reviewers provided constructive feedback that the authors carefully considered to improve their work. Most of the authors gave their consensus to publish their short papers in this volume. For those who preferred to submit

their paper elsewhere, we included only the abstract. This is a remarkable collection of insights that keep adding value following up on the precedent TWR 2018 and 2020.

The III TWR Conference was for many of the attendees the first in-person large gathering after the COVID-19 pandemic. The enthusiasm about engaging in physical exchanges across borders and disciplines was clear in the large participation that the event obtained, demonstrated by the following numbers:

172 authors

26 countries

100 in-person presenters

8 virtual attendees (non-presenters)

71 papers

5 posters

4 book presentations

21 parallel sessions spanning from Corporate Real Estate to new working spaces, from salutogenic approaches to hybrid working, from communities to academic campuses

3 workshops with the industry about *diversity and inclusion* in the workplace

4 networking events

1 keynote speech proposing a philosophical perspective on spatial relations and mutual respect in the workplace

3 days and a half of workplace formal and informal chats among enthusiast people on state-of-the-art of transdisciplinary workplace research.

We would like to thank the TWR Network for all the support over the past (nearly) 2 years. In particular, the leading force, Rianne Appel-Meulenbroek, for her contagious passion for the TWR mission and values, as well as Mascha Will-Zocholl and Annette Kaempf-Dern, organizers of TWR 2020, for being always available to pass on their experience and share their guidelines.

Finally, this TWR 2022 would not have been possible without a common purpose that we achieved with Politecnico di Milano and Fondazione Politecnico di Milano, and with our sponsors - CBRE, Lendlease, Unispace, and StudioWé. In particular, we are grateful to our mentors Andrea Ciaramella, Ilaria Mariotti, and Cristina Rossi-Lamastra who put themselves on the frontline whenever necessary to endorse the initiative.

Enjoy the read!

Milan, September 2022

Chiara Tagliaro

Alessandra Migliore

Rossella Silvestri

## **TWR2022 CONFERENCE ORGANIZATION**

### **Organising Committee**

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Georgi Zabunov, University of National and World Economy, Bulgaria  
Daria Zueva, HUST, Vietnam

## TWR2022 CONFERENCE PROGRAM

### WEDNESDAY SEPTEMBER 7<sup>TH</sup>

- 9:00 - 11:00 **TWR Board Meeting**  
Event open only to TWR Board members  
Room 16B.2.1
- 11:00 - 11:30 **Welcome Coffee**  
Room 16B.0.1
- 11:00 - 11:30 **Conference Registration**  
Room 16B.0.1
- 11:30 - 13:00 **Politecnico di Milano Campus Tour**  
Room 16B.1.1
- 13:00 - 14:30 **Lunch Break**  
Room 16B.0.1
- 14:30 - 16:30 **Parallel workshop sessions with industry sponsors, facilitated by Studio Wé**
- | <b>Session W1</b> | <b>Session W2</b>  | <b>Session W3</b> |
|-------------------|--------------------|-------------------|
| Unispace Workshop | Lendlease Workshop | CBRE Workshop     |
| Room 16B.1.1      | Room 16B.2.1       | Room 16B.3.1      |
- 18:00 - 21:00 **Welcome Aperitivo**  
@ Polimi Campus Leonardo - Room 16B.0.1

## THURSDAY SEPTEMBER 8<sup>TH</sup>

8:30 - 9:00	<b>Conference Registration</b> Room 16B.0.1		
9:00 - 9:30	<b>Welcoming Session: Institutional Greetings from TWR Board and Politecnico di Milano</b> Room 16B.1.1		
9:30 - 10:30	<b>Opening Keynote by Roberto Mordacci</b> "Space relations and mutual respect" Room 16B.1.1		
10:30 - 11:00	Coffee Break "TWR anniversary celebration" Room 16B.0.1		
11:00 - 12:30	<b>Session 1A</b> Campus and Academic Work Room 16B.1.1	<b>Session 1B</b> Geography of New Working Spaces Room 16B.2.1	<b>Session 1C</b> Sustainable Workspaces Room 16B.3.1
12:30 - 14:00	Lunch Break Room 16B.0.1		
14:00 - 15:30	<b>Session 2A</b> Hybrid Campus Room 16B.1.1	<b>Session 2B</b> New Working Spaces and Communities Room 16B.2.1	<b>Session 2C</b> Corporate Real Estate Room 16B.3.1
15:30 - 16:00	Coffee Break Room 16B.0.1		
16:00 - 17:30	<b>Session 3A</b> Critical Thinking and Working Environments Room 16B.1.1	<b>Session 3B</b> New Working Spaces and Strategies Room 16B.2.1	<b>Session 3C</b> Salutogenic Approaches Room 16B.3.1
20:00 - 23:30	<b>Social Dinner</b> @ Museo della Scienza e della Tecnica Leonardo da Vinci, Sala delle Colonne		

## FRIDAY SEPTEMBER 9<sup>TH</sup>

8:30 - 9:00	<b>Conference Registration</b> Room 16B.0.1		
09:00 - 10:30	<b>Session 4A</b> Covid-19 and the Future of Workspaces  Room 16B.1.1	<b>Session 4B</b> Co-Working Spaces, Health and Wellbeing  Room 16B.2.1	<b>Session 4C</b> Work Environments Between Virtual and Physical Activities  Room 16B.3.1
10:30 - 11:00	Coffee Break Room 16B.0.1		
11:00 - 12:30	<b>Session 5A</b> Covid-19 and Work Outcomes  Room 16B.1.1	<b>Session 5B</b> Offices, Health and Wellbeing  Room 16B.2.1	<b>Session 5C</b> Book Presentations  Room 16B.3.1
12:30 - 14:00	Lunch Break Room 16B.0.1	<b>Poster Session</b> Room 16B.0.1	
14:00 - 15:30	<b>Session 6A</b> Practices of Hybrid Working  Room 16B.1.1	<b>Session 6B</b> Workspaces, Inclusion and Corporate Social Responsibility  Room 16B.2.1	<b>Session 6C</b> Workspaces, Culture and Experiences  Room 16B.3.1
15:30 - 16:00	Coffee Break Room 16B.0.1		
16:00 - 17:30	<b>Session 7A</b> Theories of Hybrid Working  Room 16B.1.1	<b>Session 7B</b> Working Environments: Interdisciplinarity Between Research and Education  Room 16B.2.1	<b>Session 7C</b> Activity-Based Working: Theory and Practice  Room 16B.3.1
20:00 - 23:30	<b>Farewell Party - Conference Closing</b> @ Balera dell'Ortica		

## SATURDAY SEPTEMBER 10<sup>TH</sup>

10:00 - 12:00	<b>Post-conference Event - Discover Milano</b> @ Monumental Cemetery of Milan
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