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MATERIALS DIALOGUES: MATERIALS DESIGN FOR SUSTAINABLE SYSTEMS, NAVIGATING CONTEMPORARY MATERIALS DESIGN CULTURE.

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ABSTRACT | In various design domains, such as industrial, product, and fashion design, the role and importance of materials is undeniable (Ashby & Johnson, 2014; Karana et al., 2014; Pedgley et al., 2021). However, designers' exploration of material attributes and impacts has often been partial, contributing to resource depletion, waste production, and environmental damage (Vezzoli, 2018). Recognising the imperative for a more profound sensitivity and understanding of materials in the current context, this workshop centres on materials designers as crucial figures in addressing these challenges (Clèries & Rognoli, 2021). Despite their essential role, their professional identity remains emergent and under-recognised, compounded by a lack of consensus on fundamental skills for future materials designers.



1.Introduction

This workshop seeks to crystallise the concept of the materials designer, elevating its recognition as a distinct profession. It aims to foster dialogue, engaging participants in reimagining materials design practices for our complex systems. Furthermore, it will bring the 'Emerging materials for transition framework,' providing a context of novel materials and practices for environmental sustainability and circularity in materials design. Attendees, whether designers, researchers, or makers with an affinity for materials design, will collaborate to understand the materials designer's role, skills, and worldview, addressing the challenges of sustainable production and consumption systems.

2. Planned Activities and Expected Outcomes

In this 90-minute workshop, we aim to unite researchers interested in exploring the next generation of materials designers. It will serve as a platform for stimulating discussions, presentations, and brainstorming sessions on future lines of professional practice in materials design. Emerging materials and processes have garnered attention, but their effective contribution to accelerating the transition to sustainable systems remains unclear. The session will commence with a theoretical overview, setting the stage for an intense debate on the evolving role of materials designers amidst contemporary production and consumption trends. We expect 15 participants.

Table 1. Proposed organisation and activities of the workshop.

Minutes	Activity	Presenter	Tools
10	Welcome: presentation, workshop aims, research context, schedule and roles	Organiser	Slides/presentations
10	Warm-up: Participant introductions	Participants	---
10	Overview: Materials Design Field and the professional practice	Organiser	Slides/presentations
10	'Emerging materials for transition framework'		
5	Short break		
10	Material Designers in companies - Case study	Organiser	Slides/presentations
15	Small group discussions about the role of materials designers in companies. Type of companies. Skills. Role	Participants	Miro Boards Post-its and papers
15	Presentations and discussion.		
05	Conclusions and remarks	Organiser	

3.Target Audience

The workshop is for Cumulus conference participants interested in materials and design, emerging materials, materials-related issues, production, and environmental sustainability in design solutions for industry. It is especially suited for those interested in co-designing a professional figure with a vision of design and materials as a driver of innovation. It will draw on the expertise of the 'MaDe/Trans' research group from Politecnico di Milano.

4. Equipment and Space

The workshop will be in a flexible space to support active, collaborative interaction among individuals and virtual tools. Participants should use laptops for accessing Miro Boards, and paper and post-its should be available.

5. Potential Outputs

"Material Dialogues" is designed as a dynamic forum to advance the discourse in materials design, challenging traditional perceptions of materials in design practice. The workshop aims: (1) to co-define the necessary skills to develop as a professional material designer for environmental sustainability; (2) to bring together researchers; (3) to establish consideration of the current state of materials design as a design area; (4) to understand how to enrich the profession and how to give it more recognition by industry. Critical insights will be synthesised in a report/publication encapsulating recommendations for the design community.

References

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About the Author:

Sofia Soledad Duarte Poblete is a designer and PhD student at Politecnico di Milano. Her research focuses on the role of Materials Designers in companies and how they can foster Design for Environmental Sustainability through a materials-driven design profession.

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