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ABSTRACT

In recent years, the field of Design and human-computer interaction (HCI) research has expanded to engage with nonhuman perspectives and contexts alongside the human. However, these explorations often remain largely theoretical or small-scale and local. We argue that developing constructive pluriversal perspectives in complex design processes requires more diverse and adventurous experimentation. This one-day workshop explores and proposes methods for pluriversal art and design practice, with methodological guidelines of invoking intuitive and systematic perspective-building within an emphatically relational and social context.

Our goal in this workshop is to explore, share and map emerging methods that allow designers to think through multiple perspectives. We aim to bring together designers who embrace heightened sensitivity towards entities beyond the human realm and support relational approaches in design. This workshop will explore how design interventions, visual mapping, and other-than-human HCI can become 'enabling methods' that contribute to understanding others' perspectives and relations. Through experience with a case of temporalities in human-plant interaction, we will discuss how these methods can contribute to broader goals of developing relationality and endorsing eco-centric approaches in design practice.

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CCS CONCEPTS

• **Human-centered computing → HCI theory, concepts and models**.

KEYWORDS

pluriversal perspectives, other-than-human, nonhuman temporality, visual mapping, experiential design, post-anthropocentric design

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1 BACKGROUND AND MOTIVATION

The current climate and biodiversity crisis highlights critical nodes in the entanglement between humans and other-than-humans. Calls from the design community urge us to give voice and agency to other species and actors operating within a nonhuman timeframe [7]. Designers are encouraged to consider 'the wider field of perspectives' [32] and address the 'complex interdependencies of human and nonhuman actants and the independence of contextual perspectives' [8]. In recent years, designers and human-computer-interaction (HCI) researchers have tried to involve other than humans in HCI to develop 'vocabularies, practices, and methods' [37], enabling pluriversal perspectives. One lens that can be used to apply the lens of multiplicity is multiple temporalities [26]. Living beings, materials, and the environment constantly evolve, grow, or change. More than human actors, such as plants, microorganisms or AI systems, have different life cycles and transform through different time scales. Considering multiple temporalities, such as the

generations of living things, ecological time, synchronicities, patterns, and rhythms, can facilitate understanding other-than-human points of view and context of life [23, 26, 33] and enable us to understand better the implications of our designs on different species, future generations, technology and societies. While exploring entangled ecosystems and interacting with other-than-human entities to understand their needs became more common in design and HCI, these explorations often remain largely theoretical or small-scale and local. Understanding how different methodologies and modalities can support pluriversal perspectives in complex design processes requires further exploration.

In this workshop, we enquire: What experiential methodologies are emerging to support pluriversal perspectives in design and HCI? How can they be leveraged to support complex design processes? We invite practitioners and researchers interested to interact and experiment with each other's work, map the differences and intersections of approaches and interests, and develop insights. We believe recognising, mapping, and amplifying design methodologies to support pluriversal perspectives is beneficial for professionals and for the wider public as a path for a more eco-conscious society, with higher sensitivity to relationality and its impact on experience and practice.

2 RELATED WORK

To provide a context to the workshop, we introduce three theoretical pillars:

2.1 Pluriversal perspectives

Design and HCI scholars and practitioners have recently stressed the need to embrace 'differences, contingencies, and entanglements' [15], also known as pluriverse design, 'a world where many worlds fit' [10]. Paradigms like 'other-than-human design' advocate for pluralistic and relational approaches [2], and different strategies are applied to expand our understanding of the perspectives and needs of non-human species to 'find avenues towards a more-than-human future' [25] and to avoid the risk of tunnel vision and exclusion of other beings [12]. In addition to recognising the diversity of perspectives, we must consider how they get together. Tsing [36] articulates the relational aspect of assembling different views: "One must attend to its separate ways of being at the same time as watching how they come together".

The call to embrace diversity and plurality in design also relates to how we perceive and interact with time [30]. Social and empirical sciences tend to conceptualise time as a linear, homogeneous and continuous flow [6, 9, 28] measured on a human scale [4]. In HCI, these notions were traditionally exemplified by quantifying time as an applied resource [26]. However, today's research perceives time not as universal but as social and situated [31], while its diversity intrinsically demands compromise and adjustment between and among the various actor's perspectives [20, 28].

However, while it is becoming increasingly clear that we must broaden our thinking beyond the human-centred perspective and comprehend the relationships between many beings, it's still unclear how to embody multiple worldviews and integrate them into our practice and thought processes [24].

2.2 Experiential design and More-Than-Human interaction

Recent research has highlighted the transformative potential of immersive design, games, and worldbuilding in driving systems change. Despite this progress, there is a pressing need for methodologies that facilitate a deeper understanding of how perspective (positionality) influences emotions, relationships, and decision-making within designed experiences [17, 18, 35]. While HCI researchers have explored interactions involving other entities, such as plants or micro-organisms [5], mainly as 'qualitative displays' providing live visual feedback [22], few have delved into how these interactions impact people's responses and attitudes. Consequently, there is a need for further discussion regarding the evaluation of how effective these designs are in influencing participants' perspectives or how these experiences impact ongoing and long-term behaviours or practices [11]. This gap is particularly important given that many challenges in understanding environmental change stem from limitations in perspective [29, 34]. Experiential Design involving tangible, embodied and sensorial interactions with both human and non-human entities, activates space and thus facilitates the exploration of relationships within intricate systems, revealing tacit forms of knowledge that emerge through experiences [38]. This empowers audiences to scrutinize and question their roles in these environments, where designers can set up conditions for interaction and participation [16]. Inspired by Félix Guattari's ecosophy, Experiential Design provides a platform for addressing and sparking inquiries about the 'Three Ecologies' [13] - the self subjectivity - what can we sense? the other - social relations - how can we interact? and the environment - how do we perceive the world?. We inquire how experiential design elements and methods can be harnessed to broaden perspectives and achieve a more inclusive and eco-centric approach.

Building on promising insights in these fields, we aim to expand our understanding of how perspective-shifting, especially within multispecies and multiscale contexts, can aid and support a more eco-centric approach and be used during design processes for complex systems and scenarios.

2.3 Participatory Workshops for Pluriversal Perspectives

Participatory design emerged in the 1970s in Scandinavia, aiming to democratise the workplace by involving and empowering a broad scope of stakeholders in decision-making processes [21]. Throughout the years, participatory design has evolved to focus on maintaining and growing communities of participants [37]. Gradually, participatory design broadens participation beyond human actors' perspectives [14].

Participatory design has been using an expansive range of methods adopted from different fields [3], including HCI, digital design, and visual mapping, to name a few. The most notable format used in participatory design is participatory workshops, where issues of participation and relationality play a significant role. In the words of Pihkhala and Karasti [27]: "participatory design practices are always-relational socio-material entanglements".

In recent years, the number of workshops on more than human at Design and HCI conferences has grown significantly, demonstrating an increasing curiosity in the topic. For example, the workshop 'Designing with the more-than-human: Temporalities of thinking with care' [26] in DIS, 'Bringing the forest around the table: How to support other-than-human participation in urban regeneration process to design?' [39] in Nordes, 'Navigating Wicked Futures Through More-Than-Human Perspectives: Experiments in design education' in RSD11 symposium [1] and 'Moral Agents for Sustainable Transitions: Ethics, Politics, Design' in CHI23 [19].

Our workshop builds on previous works but with a special focus on emerging design methodologies seeking to expand participants' notion of pluriversal perspectives and develop an awareness of the relationality between these perspectives throughout the workshop. We focus on embracing diversity and plurality in design and broadening our thinking beyond the human-centred perspective. Within the cross-section of human-plant interaction and participatory visual mapping, we will explore pluriversal perspectives as they appear in the participants' work and map the relationships between them. We will combine an experiential interaction by sharing a case from our practice and facilitate a visual mapping exercise to draw connections among participants' work and perspectives.

3 TOPICS AND THEMES

In this workshop, we aim to explore and map emerging methodologies to support pluriversal perspectives in design and HCI, draw attention to their becoming relationalities and mark future research directions. To achieve this goal, we will explore the following topics and themes:

- **Sharing and exploring multi-perspectives enabling methods in design**: - based on participants' pre-submitted work, we will learn about each other's work and methodological approach.
- **Experiencing and Investigating a case of human-plant interaction**: We will explore methods from the world of human-plant interaction and more than human interactions. We will look into ways to facilitate the apprehension of relationality through augmentation tools such as microscopes, sound, and digital filters. We will share approaches that allow individuals an embodied and intuitive experience and careful observation, examining how such experiences can support a close and intimate understanding of other species' temporalities.
- **Mapping relationality and exploring perspectives through other than human temporalities**: We will shape and depict our experiences and observations through a participatory visual mapping exercise. The mapping will generate a reflective conversation about time through a more than human lens, as a case of pluriversal perspectives in design.
- **Reflecting on how the fostering of relationality and entanglements influence design processes**: We will conclude the workshop with a discussion, addressing questions like: how do the designed interaction and technological elements enable/develop awareness of other perspectives? How does visualising different relational dimensions affect the awareness of time? How can this awareness come into play in design practice?

4 WORKSHOP CALL

The current climate of pressing ecological and social challenges highlights the need for a transformative shift in how we design for ecological systems, communities and the relationship between them. In recent years, design researchers have started to explore methods for enhancing pluriversal perspectives and understanding temporalities by designing interactions with other-than-human entities such as plants, microbes, fungi, animals, landscapes and more. These interactions aim to acknowledge and support the entangled ecosystems surrounding humans and to give these entities a voice as stakeholders in decision-making processes.

However, these explorations often remain largely theoretical, small-scale and local. This workshop asks: What experiential methods are emerging to support pluriversal perspectives in design and HCI? How can they be leveraged to support designers in navigating complexities while working towards more inclusive and eco-centric design practices?

We invite practitioners and researchers interested in embracing multiple perspectives beyond human to experiment and interact with each other's works, designs and research. Together, we will map the differences and intersections of approaches and interests and draw insights from the workshop. In the workshop, we will introduce activities and methods for collaborative exploration while asking participants to present and share their work or provocations. We aim to familiarise, connect and think through collaborative modalities and design methodologies that enable deep ecosystem thinking and relationality.

Participants should submit a one-page (500 words) position paper (excluding references) in the ACM Extended Abstracts Format. The proposals should contain the authors' (initial or preliminary) reflections about the challenges of involving other-than-humans perspectives in design processes and ideas or examples of design methods that can enable or aid the navigation of this complex process. Submission types include Research, Pictorial, Provocation, Speculation, Work-in-progress, artefact, and demo. The proposals should be emailed to [to be determined after acceptance]. We will select papers based on their relevance, quality, and diversity. We will limit the size of the workshop to 20 participants. At least one author of each accepted submission must attend the workshop.

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