Rethinking Hybrid Events in the Future of Work:
A Hybrid Workshop for Creating a Better Hybrid World

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What are hybrid events, and how will they look like in the future? The past couple of years have evolved the ways by which we organize our work and professional events. A surge in adoption of communicative and collaborative digital tools has enabled people and organizations to achieve an "appropriated and rather simulated togetherness"—the hybrid mode. In this "hybrid" workshop, we aim to rethink what hybrid events are in our future work; how to effectively scale them across sectors, communities and industries; how emerging technologies can create better, more immersive hybrid experiences; study best practices and define how "successful" hybrid events can be effectively measured; and finally, identify and chart the wider social, ethical, and legal implications of hybrid formats. This workshop will consolidate these topics by inviting participants to collaboratively engage in questioning and rethinking the nature of this hybrid workshop itself, turning it into a living experiment.

1 BACKGROUND

What are hybrid events, and how will they look like in the future? A recent definition of hybrid events in work-related contexts describes a schema where there is a mixture of co-located and non-co-located work or workers – this mix can be across individuals in a team, workforce, or group of people for meetings [15]. Under this view, hybrid events for work inherit this definition for events like trade shows, conferences, workshops, or similar meetings. Information and

communications technology (ICT), which mediates hybrid work (including the capability to support hybrid events) has a long history, starting from 1930 when Bell Labs demonstrated the first two-way television between offices [12]. In the early 1990s, with the help of secure intranets of the companies, the hybrid arrangement of individual work was then adopted internationally in corporations and multinationals. At the same time, hybrid collaborative work was conceptualized (e.g., the iconic Media Space project [5]). In 2001, the rise of the online gig economy enabled certain highly independent jobs (e.g., freelancer tech consultants) to embrace hybrid work mode as the norm.

In response to the COVID-19 pandemic, employees from a wide range of job sectors (e.g., IT and technology, sales, retail, and research) were mandated to work remotely [6]. As lockdowns were lifted, companies transitioned to "hybrid work" – a process that continues today [2]. Through the unexpected global experiment on hybrid work, employers and workers have been triggered to rethink their work-life balance, commuting, and health risks [31]. This experience fundamentally questioned if the hybrid event model can become a common practice across different job sectors and opened up opportunities to explore how to make such arrangements consistently possible. Hybrid events generally use technologies designed for hybrid collaborations – the most common devices in a hybrid setting were generally screen-based (i.e., laptops, and tabletops), where users largely remained in sedentary positions [20]. Across the board, the different stakeholders – employers, employees, the community – are evaluating what it means to conduct events in a hybrid format, and how to best implement it. This motivated a slew of research on the subject [20]. This "hybrid" workshop aims to rethink and re-imagine what "hybrid events" for work are, who they cater to, what technology is needed to pervasively enable it, how a "successful hybrid mode" can be validly measured and using what tools, and how different notions of hybrid across sectors and communities can question these outcomes.

1.1 Workshop Topics

To rethink what is hybrid work and to identify its wider implications, we define *four core topics* that our workshop is concerned with:

Topic 1: What are hybrid events, the current best practices, and how can they scale across domains?

Hybrid events take on different meanings depending on the type, scale, and technology used at the event. Neumayr et al. [19] define hybrid collaboration as collaboration that switches between co-located and remote as well as being synchronous and asynchronous. In recent years, conference organizers are transitioning from simply having an online option, often asynchronous, to actually planning and implementing the hybrid model [27]. Extensive guidelines on hybrid meetings [25] and more broadly for hybrid workplaces [13] were proposed by HCI researchers. One key takeaway for hybrid arrangements is to have half of the time in the office for relationship building while still benefiting from the flexibility of remote work. These guidelines also provided constructive suggestions on ICT usage, for instance, scheduling meetings starting at xx:05 to allow breaks, and ensuring all participants use the same versions of the same tools. Moreover, the logistical challenges (e.g., setting up audio-visual equipment, screen sharing) faced in organizing hybrid events add to the inertia in their overall acceptance and perceived collective fatigue towards participating in them. On the other hand, they also revealed that the asymmetry between in-person and remote settings remains. Primarily, the guidelines addressed problems of access to physical resources, serendipity during informal interactions, and lack of new models for workspace design. Comparably, the discussion on hybrid events has just started[1]. Could the guidelines for hybrid work and meetings be redesigned them to meet the challenges of scale for hybrid events? Hybrid events for work also cover broader job sectors (e.g., performance art and sports [18]) – how to adjust the practices to a diverse range of activities?

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[1]https://www.microsoft.com/en-us/worklab/the-future-of-hybrid-events

Topic 2: How can emerging technologies and tools support hybrid event experiences?

A number of technologies have been developed to support hybrid event experiences (e.g., creating new to communicate in remote meetings [26]), fused with multi-modal data. To bring the offline meeting experience into the virtual world (e.g., non-verbal cues), recent research developed an app called MeetCues [1] to provide real-time feedback by tagging key points and action items during the meeting.

However, such feedback did not fully capture the multi-sensory integration we are attuned to in physical meetings. Consider, for example, the almost universally acceptable non-verbal cue of nodding [23]. In face-to-face interactions, it is natural to observe bodily expressions to understand, for instance, whether one agrees with what is being said (nodding) or needs clarification. To this end, works have explored how visualizing biosignals in social VR [16] can reconfigure relations with an avatar, or how pulse and vital signs in mixed reality [17] can increase social interoceptive awareness. However, the picture is different in virtual or hybrid meetings. Participants of virtual meetings who often turn off their cameras leave the speaker staring at a sea of black squares, feeling psychologically disoriented. To this end, researchers have explored extended reality approaches [9],to support flexible video feed configurations. In a study on group creativity in virtual meetings, it was observed that distracted participants contributed less to the group's performance, echoing the need for managing distractions in virtual meetings [3]. Another stream of research used wearable devices to capture participants' heart rates, head and hand movements, and changes in postures [7, 22]. Head movements such as nodding served as a proxy for (dis)agreement, while changes in postures served as a proxy for (dis)comfort. In particular, these two body cues metrics proved helpful for attendees to infer the levels of psychological safety "in the (virtual) room". We invite submissions focusing on emerging technologies and tools to enhance the hybrid event experience.

Topic 3: What is a "successful" hybrid event experience, and how to measure it?

Research on hybridity has paid great attention to hybrid collaboration [20]. A core element for a successful collaboration experience is the notion of presence [21] in general and social presence in particular. This builds on a last year's CHI workshop on social presence in virtual event spaces [14]. Presence includes spatial presence and social presence [14]. This includes different facets of knowing who is in your current hybrid space, how physical and virtual participants are reacting to current situations, and, more generally, an awareness of what these participants' activities are and their availability which may offer ways to connect with them. Reflecting on hybrid meeting experiences over the past two years, a key question we ask is how to maintain engagement and social presence between physical and remote participants throughout the lifeline of hybrid event experience. We echo the statements made on the first hybrid CHI 2022, where TPC David Ayman Shamma highlighted that "*The goal should be to blend spaces and people, not segregate them*" [27]. We also borrow lessons from CHIWORK 2022's Annual Meeting, where participants engaged in a fully hybrid experience with a mix of presenters and session chairs that were both in-person and online. More crucially, how can we determine/measure if our hybrid arrangement was successful? HCI and CSCW researchers have tested various methods for subjectively and objectively measuring presence. Measurement approaches include presence questionnaires [29] , psychophysical measures [30], success measures (e.g., execution, psychological safety) [8], objective measures that correlate with measurable properties of the communication medium [28], and also measuring the physical distance between persons (i.e., proxemics theories) [11]. We aim for our "hybrid workshop" to tackle this aspect. Extending our experience in our SensiBlend workshop at UbiComp 2021 [32], this "hybrid" workshop will support both physical and virtual attendees to demonstrate and experiment with their own tools, guidelines, and

methods (BYOTM) for measuring hybrid experiences directly during the workshop. This will offer the community a chance to closely revise and discuss the evaluation metrics that would benefit larger-scale hybrid events.

Topic 4: What are the implications of hybrid events, and how do they permeate into and restructure life?

The current guidelines and technologies mainly benefit digital and knowledge-based workers. Since we consider that hybrid has become a new norm for work, we envision this workshop to embark on discussions tackling new forms of technologies, social interactions, and environments that allow diversity, inclusion, and equality across job sectors. Recent papers investigated presence robots [24] and explored the concept of walking meetings [10], which harnessed technologies for supporting hybrid communication and collaboration while in motion. This, however, brings to question to what extent such technologies (e.g. telepresence robots) enable accessible interactions and ensure equality among participants. How should those with motor impairments cope with walking meetings? It is also important to unpack the ethical implications of technologies supporting hybrid event experiences. The increasing adoption of remote and hybrid work led to an increase in workplace surveillance[2], which, if left unregulated, would impact employees in negative ways. On the one hand, organizations opt for employee surveillance for several reasons (e.g., maintaining productivity, and monitoring resources used). On the other hand, critics rightly argue that there is a fine line between what organizations could be monitoring and what they should be monitoring. Crossing this line will impact employees, affecting their well-being, work culture, and productivity [4]. This workshop aims to critically address how hybrid event approaches can fare across a wider range of jobs and offer equal opportunities to experience "successful" hybrid work modes across communities and individual accessibility needs. Especially for physical and social jobs (e.g., gig delivery, technical support, social care, and health sectors), where it is unclear currently how current guidelines for hybrid workplace practices [13] and meetings [25] apply to them.

1.2 Workshop Goals

We aim for the 'Rethinking Hybrid Events' workshop to be an interdisciplinary forum that brings together researchers, practitioners from academia and industry, and policymakers, to collaboratively:

- ***Rethink*** what are hybrid events and hybrid work? How they can be scaled across communities, sectors, and industries – starting with this very workshop itself;
- ***Explore*** novel and emerging technologies supporting hybrid event experiences, where we invite attendees to bring their own tools and methods (BYOTM);
- ***Define*** a set of (practical) scalable guidelines and measurement approaches for ensuring "successful" hybrid event experiences, and disseminate this knowledge through the CHI community and beyond;
- ***Discuss*** the implications of hybrid events, from how they influence our everyday life, addressing ethical boundaries and legal hurdles, to assessing their impact across geographies and infrastructures.

2 ORGANIZERS

Alberta A. Ansah (*main contact*) is a PhD student in the Department of Electrical and Computer Engineering and a researcher at the Human Computer Interactions lab at the University of New Hampshire. Her research is focused on investigating tasks and technologies to support remote work for collaborative groups. (`https://albieamaansah. wixsite.com/alberta-ansah`)

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[2]`https://www.forbes.com/sites/forbesagencycouncil/2021/12/08/monitoring-remote-workers-the-good-the-bad-and-the-ugly/?sh= 541cb8c1da88`

Sailin Zhong is a PhD student at the Human-IST Institute, at the University of Fribourg in Switzerland and a visiting student at the Responsive Environments Group at the MIT Media Lab. Her research focuses on understanding and augmenting human perception of comfort in the built environments in the work context through sensing and interaction design. (`https://sailinzhong.net/`)

Marios Constantinides is a Senior Research Scientist at Nokia Bell Labs, Cambridge (UK). He works in the areas of human-computer interaction, ubiquitous computing, and Responsible AI. His current research focuses on building AI-based technologies that augment people's interactions and communication and studying their ethical considerations. (`https://comarios.com/`)

Himanshu Verma is an Assistant Professor at the Faculty of Industrial Design at TU Delft (Netherlands). He has a background in HCI, UbiComp, and Social Cognition. He is interested in examining the social dimensions of wearables, and the ways in which they can be used to understand the internal mechanisms enabling or inhibiting interpersonal collaborations, particularly, in hybrid and blended contexts. (`https://vermahimanshu.com/`)

Abdallah El Ali is an HCI research scientist at Centrum Wiskunde & Informatica (CWI) in Amsterdam within the Distributed & Interactive Systems group. He leads the research area of Affective Interactive Systems, where he focuses on ground truth label acquisition techniques, emotion understanding and recognition across the reality-virtuality continuum, and affective human augmentation using physiological signals. (`https://abdoelali.com/`)

Hamed S. Alavi is a Tenure-Track Assistant Professor and a founding member of the Digital Interactions Lab at the University of Amsterdam (Netherlands). His current research is focused on the future of human's interactive experiences with built environments. Particularly, the engagement of HCI and UbiComp in the evolution of built environments as they increasingly incorporate AI, and new forms of interactivity. (`https://hamedalavi.com/`)

Alina Lushnikova is a PhD student at the Human-Computer Interaction research group at the University of Luxembourg. Her research is focused on exploring and measurement of collaboration experiences. More specifically, she is interested in discovering ways to improve collaboration at work, support agency, and well-being in the workplace. (`https://www.linkedin.com/in/alina-lushnikova/`)

Sean Rintel is a Principal Researcher in human-computer interaction exploring the Future of Work at Microsoft Research Cambridge (UK). He is currently focused on blended reality encounters and workflows — how to make remote and hybrid telepresence engaging and effective throughout the workday. (`https://aka.ms/seanrintel/`)

Andrew Kun is Professor of Electrical and Computer Engineering at the University of New Hampshire. His research is focused on novel user interfaces for the future of work, both for traditional workplaces, and for non-traditional workplaces such as automated vehicles, and when working from home. (`http://www.andrewkun.com`)

3 WORKSHOP WEBSITE

The website will be hosted on a public server provided by GitHub Pages (`https://pages.github.com`). The website (`https://hybridchi.io`) will be a key platform to disseminate information about the workshop, including the Call for Participation (CfP), crucial dates and deadlines, profiles of the co-organizers and Technical Program Committee (TPC), workshop schedule, and activities. Moreover, the website will also serve as an archive of the workshop outcomes, containing the workshop's summary, recordings of workshop proceedings (conditioned upon the consent of attendees), and other outputs.

4 PRE-WORKSHOP PLANS

We aspire to bring together academics and practitioners from diverse domains and organize an interdisciplinary forum with implications for a broader community. Particularly, we seek to bring together researchers and practitioners whose work lies within the ACM SIGCHI domains (e.g., HCI, CSCW), as well as web sciences, AI, psychology, urban planning, and others. Workshop organizers are actively engaged in the aforementioned themes, and will encourage colleagues and students to participate in the workshop. Consequently, we will advertise the workshop (CfP, deadlines, and announcements) on diverse channels, including (but not limited to) mailing lists, our social and professional networks, the workshop website, local ACM chapters, and our respective institutional communication channels. Owing to the increased relevance of our workshop theme and its implications for the future of work, we aim to invite 40-50 attendees. We consider this an appropriate size for our workshop, allowing us to shape a comprehensive future research agenda, build collaborations, and consolidate an active community around the workshop theme.

Upon acceptance of the proposal, we will reach out to (academic and industry) experts to compose a TPC to enable us to review and select author contributions and facilitate preparing a diverse and thematically-rich program. In constituting the TPC, we will aim to balance the themes and perspectives relevant to the workshop. We will invite submissions of different kinds, ranging from technical papers, work-in-progress, and position papers to provocations, pictorials, hybrid experiences, and case studies. The submissions will be 2-6 pages long, excluding references, and organizers will provide a template on the website. We will also set up a Hybrid EasyChair (`https://easychair.org`) to effectively manage the submission and review process. Each submission will be peer-reviewed by at least two reviewers (including organizers and external reviewers).

The authors of accepted submissions will be asked to provide a short video (8-10 minutes) presentation of their work, which will be uploaded on the workshop website a few weeks before the workshop. This way, attendees will have the opportunity to familiarize themselves with the papers and videos and co-organizers to prepare for the Technical Session with the authors (Table 1). We will also set up a Slack[3]) team with the attendees to introduce themselves and start conversations before the workshop day. Finally, we will reach out to our attendees with informed consent forms about recording the workshop proceedings and discussions.

5 WORKSHOP STRUCTURE

We plan for a full-day hybrid workshop with diverse submission types described in Section 4. We will use Zoom `https://zoom.us` (for synchronous conversations), Slack (for asynchronous communication), and Miro `https://miro.com/` (for interactive group work) to facilitate the workshop's hybrid organization. The entire workshop is estimated to be around 8 hours, with varied activities, presentations, and social events (cf. Table 1). We will provide *how-to tutorials* a week before the workshop in case any participants are unfamiliar with the tools above.

In the *first* half, we will host a keynote and have presentations of accepted works. We reached out to David Ayman Shamma (Toyota Research Institute and Technical Program Chair for CHI'22), who kindly agreed to share the lessons from running CHI'22 as a hybrid event. Unlike a typical technical session with presentations, we aim to host panel discussions among authors of the accepted papers. Each author will start with a 2-minute pitch of their work, a local and a remote chair will moderate the discussions, facilitating a smooth hybrid experience between in-person and remote attendees. In the *second* half, organizers will assign participants into 4 topical groups, with the key activity of questioning / re-imagining the format and implementation of our "hybrid workshop" itself, given unlimited resources.

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[3]`https://slack.com`

Table 1. Proposed workshop schedule.

	Time	Activity
I. Technical Sessions	08:45−09:00	**Setting Up:** Log in to the virtual workshop (Zoom) and greet all the participants (in-person and remote).
	09:00−09:15	**Welcome:** Introduce organizers, workshop objectives, and schedule.
	09:15−10:15	**Keynote:** 45-min presentation by David Ayman Shamma followed by a 15-minute Q & A. The presentation is held onsite or remotely, depending on the speaker's availability. Priority given to an in-person keynote.
	10:15−10:45	**Coffee Break:** A dedicated machine keeps Zoom open to allow in-person and remote attendees interactions.
	10:45−12:15	**Technical Session:** Panel discussion among authors of the accepted papers clustered according to the workshop topics. Each author starts with a 2-minute pitch of their work. The panel may consist of in-person and remote participants, a local and a remote chair moderate the discussions. A short 5-minute break follows after 45 minutes.
	12:15−13:30	Lunch Break
II. Group Activities	13:30−13:45	**Assign Groups:** Organizers introduce the workshop topics and assign participants to 4 topical groups, with the key activity of questioning/redesigning the format and implementation of this "hybrid workshop" itself.
	13:45−14:45	**Group Discussion 1:** Each group is assigned to one of the 4 topics, and one of the organizers (or another volunteer) moderates the discussion.
	14:45−15:15	**Coffee Break**
	15:15−16:15	**Group Discussion 2:** A second round of discussions on the assigned topic; the group consolidates ideas into a slide deck (the organizers provide the template).
	16:15−17:00	**Group Presentations:** Each group presents the results of their ideation exercise in 8-10 minutes, followed by a short Q & A session.
	17:00−17:15	**Coffee Break**
	17:15−17:30	**Wrap up, social drinks and dinner:** Summary of the workshop and follow-up activities (e.g., after workshop event for in-person attendees, in-person and virtual group photos).

Each group will engage in a 2-hour discussion and consolidate ideas into an executable research agenda. One member of each group will present the research agenda.

6 POST WORKSHOP PLANS

After the workshop, the outcomes (e.g., panel discussions, results of group activities) will be summarized and added as a blog article to the workshop website. In addition, we will invite attendees to co-author an ACM Interactions feature, consolidating the diverse research themes and agendas. Moreover, in consultation with the workshop attendees, we aim to propose a special journal issue (e.g ToCHI) and encourage attendees to collaborate on projects and submissions around the developed research agendas.

To facilitate an active engagement among attendees and evoke a sense of community, we aim to keep the workshop's Slack channel alive after the workshop's conclusion and even open it to other researchers and practitioners who could not attend the workshop. Finally, we aspire to continue the discussions about the developed research agendas and workshop themes in the future by organizing bi-weekly conversations with invited speakers (similar to the moderated conversations held on CHIWORK[4]), which will be facilitated by the workshop organizers and members of the TPC.

7 REMOTE AND ONSITE PLANS

Given the topic of our workshop, we have a unique opportunity to test hybrid work practices [27]. To this end, the workshop will follow the currently prevalent hybrid format, facilitating participation for in-person and remote attendees.

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[4]https://www.chiwork.org

In-person attendees. We expect 20-25 in-person attendees. Presentations will be projected in the physical room and shared on the teleconference platform for remote attendees.

Remote attendees. Online participation will be capped at 25 to ensure a power balance [25] in hybrid discussions and will also be subject to conference registration. Online participants will have instructions on how to join remotely (i.e., a few days before the workshop, we will send an email with instructions containing a link to the teleconference platform).

Hybrid chairing of sessions. We expect to have two chairs for the technical session and group discussions – one present in person and another remotely. This idea originated from CHIWORK'22, and two members of the organizing committee, who also organized CHIWORK, shared their expertise on facilitating an effective hybrid chairing experience. Presentations and group discussions will be moderated by each session chair, respectively. The in-person screen will always project the teleconferencing room's chat, allowing participants to "read the virtual room".

Tools. Sections 4 and 5 elaborate on the tools we will use to facilitate hybrid organization of our workshop.

8 ACCESSIBILITY

We aim to make our workshop inclusive to diverse participants and plan on ensuring accessibility throughout the timeline of the workshop as illustrated below: ***pre-workshop***: The authors will be asked to adhere to SIGCHI's Accessible Submission Guidelines[5] prior to submitting their articles (for review or archival). Additionally, while uploading the presentation videos, the authors will be asked to provide subtitles alongside their videos. In the weeks leading up to the workshop, we will conduct a survey with attendees to identify the accessibility needs for in-person and remote participation; ***during workshop:*** In collaboration with the Accessibility Chairs, we will address the special needs of in-person and remote participants; ***post-workshop:*** The organizers will review the content generated during the workshop and will complement it with alt-text, subtitles, and other additional elements that will ensure its accessibility for a broader audience.

9 CALL FOR PARTICIPATION

What are hybrid events, and how will they look like in the future? The past couple of years has evolved the ways by which we organize our work and professional events. A surge in the adoption of communicative and collaborative digital tools has enabled people and organizations to achieve an "appropriated and rather simulated togetherness" – the hybrid mode. In this "hybrid" workshop, we aim to collaboratively rethink what hybrid events are, how to scale them across sectors/communities, how emerging technologies can support hybrid experiences, how "successful" hybrid events can be effectively measured, and chart the wider social, ethical, and legal implications of hybridity. We invite participants to join a one-day hybrid workshop to be held at the 2023 CHIWORK Annual meeting, where we will together engage in questioning and rethinking the nature of this hybrid workshop itself. We welcome participants from HCI, engineering, design, psychology, education, policy, ethics, and law. We invite 2-6 page position papers, video submissions showing hybrid setups with a 1-page description, project/demo submissions relating to this call, or previously published work raising relevant questions. Submissions should be in the 2-column CHI EA format, uploaded to the HybridCHI EasyChair (<URL>), and must adhere to SIGCHI accessibility guidelines. The organizing and external committees will select submissions based on their quality and contribution relating to hybrid events. Submissions will be shared with workshop attendees in advance to prime and stimulate discussion at the workshop. At least one author of each accepted submission must attend the workshop and register for both.

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[5]https://sigchi.org/conferences/author-resources/accessibility-guide/

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