Embedding HCI in the Real World: Strategies for Recruitment and Field Research on Collaboration in Hybrid Spaces

Ceenu George

Technische Universität Berlin Berlin, Germany ceenu.george@tu-berlin.de

Eva Wiese

Technische Universität Berlin Berlin, Germany eva.wiese@tu-berlin.de

Falko Dressler

Technische Universität Berlin Berlin, Germany dressler@ccs-labs.org

Franziska Günther

Technische Universität Dortmund Dortmund, Germany franziska.guenther@tu-dortmund.de

Sebastian Moeller

Technische Universität Berlin Berlin, Germany sebastian.moeller@tu-berlin.de

Frauke Mörike

Dortmund, Germany frauke.moerike@tu-dortmund.de

Stefan Brandenburg

Chemnitz, Germany

Technische Universität Dortmund

Motivation

Collaboration increasingly involves digital tools, AI-driven systems, and hybrid environments, where emerging technology enables the overlapping of physical and virtual content. The shift to hybrid workspaces introduces new challenges for understanding how technology mediates collaboration while preserving social and organizational structures [2]. In this complex environment, we are not only concerned about the interaction between the technology and the user, but also about users' interaction with each other and the environment [6, 15]. This results in the need to consider a multitude of variables when designing field studies; especially if we want to understand complex dynamics, such as the relationship between performance and social connectedness [15]. Despite its relevance, much of the research on collaboration in these hybrid settings remains limited to controlled laboratory studies [12, 13], restricting our understanding of real-world adoption, usability, and long-term integration.

Jana-Sophie Effert

Technische Universität Dortmund

Dortmund, Germany

jana-sophie.effert@tu-dortmund.de

Veronica Hoth

Technische Universität Chemnitz

Chemnitz, Germany

Moritz Queisner

Charité - Universitätsmedizin

Berlin, Germany

moritz.queisner@charite.de

veronica.hoth@psychologie.tuchemnitz.de

Although HCI researchers have long acknowledged the importance of field studies [10], their implementation remains infrequent. Structural constraints-such as short-term funding cycles, publication biases toward lab-based studies, and regulatory restrictions-make longitudinal and ecologically valid field research difficult to sustain. In Germany and the EU, compliance with frameworks such as the upcoming Forschungsdatenschutzgesetz/research data regulations [1] and the EU AI Act [5] adds further complexity, particularly in terms of data collection, storage, and sharing requirements. When conducting field research despite structural constraints, another challenge is the recruitment of suitable participants.

Technische Universität Chemnitz stefan.brandenburg@psychologie.tuchemnitz.de

Abstract

Field studies are essential to understand the interaction between emerging technologies and users in collaborative work environments. Simultaneously, recruiting participants in this setting is particularly challenging when engaging marginalized, vulnerable, or specialized user groups. Access barriers, ethical concerns, and methodological constraints influence both the recruitment process and the overall research design. This workshop invites researchers and practitioners to share their experiences, future plans and methods from field studies and inclusive recruitment tactics on collaboration in hybrid spaces - including but not limited to healthcare settings. It also addresses methodological challenges, and fosters the collaborative development of user-centered approaches. Combining recruitment strategies with real-world field research approaches, this workshop provides a holistic perspective on conducting inclusive, methodologically robust, and ethically responsible HCI studies. Through keynotes, case studies, and participatory sessions, participants will develop strategies for effective recruitment and field study execution. By bridging these perspectives, the workshop aims to enhance methodological rigor and inclusivity in HCI research.

Keywords

Human-Computer Interaction, Field Studies

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

Mensch und Computer 2025 - Workshopband, Gesellschaft für Informatik e.V., 31. August - 03. September 2025, Chemnitz, Germany

© 2025 Copyright held by the owner/author(s). Publication rights licensed to GI. https://doi.org/10.18420/muc2025-mci-ws-118

The discussion about decision-making and procedures in the acquisition of participants and their effects on further research processes promotes the democratization of HCI research. The recruitment of hard-to-reach groups, such as marginalized and vulnerable user groups (e.g. people with disabilities), but also users with special knowledge (experts in a field) or users in very specific contexts (environmental factors) is challenging. Accessibility challenges can be attributed to various factors. Ellard-Gray et al [4] distinguish between hard-to-reach, hidden and vulnerable groups who a) do not maintain contact with outsiders, b) deliberately avoid visibility or c) are confronted with risks through participation in research studies. Disclosing personal experiences can be associated with additional burdens for vulnerable groups due to socioeconomic conditions [11] mental [8] or physical illness or other vulnerabilities [4, 14]. These factors lead to two central barriers in research: On the one hand, there are individual barriers to participation such as fear, mistrust or a lack of resources that prevent potential participants from taking part; on the other hand, there are methodological difficulties in sampling, as established recruitment strategies do not always work and alternative approaches are necessary [4, 9]. The recruitment of suitable participants not only influences the composition of the sample, but also affects the entire research process by shaping the methods of data collection and the approaches to data analysis [3]. These challenges discourage researchers from transitioning early in the process to field-based methodologies, despite the critical role of real-world studies in developing deployable, user-centered prototypes.

1.1 Goals

Building on prior work in HCI field research [10], this workshop moves beyond conceptual debates to focus on practical strategies to conduct research outside of laboratory settings, including ethnographic research and participatory design.

The workshop has four primary objectives. First, it will assess the current state of field research in HCI with the workshop participants – particularly within Germany and the EU. Based on their experience and the case studies that they have submitted, participants will review the scope, recruitment strategies, frequency, and impact of field studies while identifying the methodological, regulatory, and funding constraints that have hindered their adoption.

Second, the workshop will identify methodological advances that facilitate efficient field studies. Participants will exchange insights on effective tools, study designs, and workflows that enable a transition from controlled experiments to real-world deployments. Kjeldskov et al.[10] discuss that the HCI community needs to find ways to move earlier into the field. We want to build up on their discussion and explore within this workshop how far we have come and more critically reflect on why the move to the field is happening slower than we envision at the start of projects. We are specifically interested in case studies from practitioners and researchers that failed or required multiple rounds of improvements. However, the discussion will also include examples of successful field research methodologies [7], as well as strategies for balancing scientific rigor with real-world constraints [16].

Third, it will explore best practices for regulatory compliance and data-sharing. The discussion will focus on strategies for navigating legal and ethical requirements in field studies, particularly under the Forschungsdatenschutzgesetz/research data regulations [1]. Additionally, the workshop will examine how universities and research institutions can support standardized, legally compliant data collection and sharing early in the project in a timely manner.

Fourth, the aim is to develop strategies for inclusive and reflective participant recruitment and to derive concrete measures for successful field access. Particular attention is paid to the target group-oriented formulation and placement of research appeals, as well as confidence-building measures to prepare for the implementation of HCI studies.

Finally, the workshop will address structural barriers in publishing and funding that discourage field studies. Participants will discuss how HCI publishing norms favor lab-based research, limiting incentives for longitudinal, real-world studies. This discussion will explore how we can address this as a community.

2 Workshop Mode

The workshop will be conducted fully in-person to facilitate direct collaboration and interaction. Participants should be prepared for active engagement and collaborative group work. No specialized skills are required, but ongoing participation is expected.

3 Workshop Activities

The main part of the workshop will be (i) the presentation of the case studies, followed by (ii) a participatory design session [19], where we collaboratively design field study methodologies for emerging technologies in collaborative settings.

- Keynote (20 min)
- Participant presentations highlighting diverse case studies and experiences (10 min each, max 120 mins plus a break of 15 min)
- Brief introduction to methodological, recruiting and regulatory considerations (20 mins)
- Participatory design session to collaboratively develop field study methodologies (120 mins). Based on prior participatory workshops on emerging technologies [17, 18], where we collaboratively design field study methodologies for emerging technologies in collaborative settings.
- Group presentation and discussion to summarize methodological insights and practical recommendations (60 mins).
 Each group presents their findings from the participatory design sessions.
- Workshop conclusion to summarize the day and discuss how to proceed with the topic within this community. (20 min)

4 Call for Participation

Workshop on Field Studies with Emerging Technologies in Collaborative Work

We invite researchers, practitioners, and academics from diverse sectors to participate in our workshop on field studies with emerging technologies in collaborative, hybrid spaces. The workshop will focus on recruitment, methodologies, challenges, regulatory considerations, and future applications in this domain. We aim to foster discussions and networking opportunities among experts and newcomers alike.

The workshop will feature lightning talks, discussions, and a participatory design session to explore different perspectives on conducting field studies in collaborative work settings. Selected submissions will be presented as 5-minute lightning talks followed by 5-minute discussions.

Participants are required to submit position papers (1–2 pages) following the ACM two-column template (documentclass[sigconf, review]acmart). Papers should address field study experiences, methodologies, emerging technologies, regulatory considerations, or propose concepts for future applications. All submissions must include author information and be submitted via ConfTool.

Submissions will be reviewed by workshop organizers and fellow participants. Accepted submissions will be included in the GI Digital Library. At least one author of each accepted submission must attend in person and register for at least one day of the conference. For more details, visit our workshop website. Submission Deadline: TBC, 2025, AOE We look forward to your contributions!

5 Organizers

Ceenu George is a TT professor of Human-Computer Interaction at the Technical University of Berlin. Her research explores the intersection of HCI, extended reality (XR), and explainable AI (XAI), with a focus on collaborative interactions in hybrid environments. She has organized workshops at leading conferences and actively contributes to the HCI/XR community. Her work has been published in top-tier venues, addressing user experience, adaptive interfaces, and participatory design methods.

Franziska Güntheris an ethnologist specializing in psychological anthropology. She is a research associate at TU Berlin and a doctoral candidate at TU Dortmund University. Her research focuses on the perspectives of individuals with lived experience at the intersection of peer support and professional participation. Using qualitative research methods, she explores the experiences and challenges faced by people with mental health conditions.

Jana-Sophie Effert is a research assistant and doctoral candidate at the Department of Work, Inclusion and Technology at TU Dortmund University. With a background in psychology and a focus on human factors, she is currently working primarily on the human-centered design of inclusive work systems. The focus is on the integration of people with disabilities in the development process of work software.

Eva Wiese is a full professor of Experimental Psychology and Social Neuroscience at the Technical University of Berlin. Her research examines cognitive, behavioral and affective processes underlying social interactions between humans and artificial agents, such as robots or AI. She uses neural and behavioral measures in combination with dynamic interaction protocols that allow participants to engage in realistic social interactions with artificial agents and investigates how the brain responds to their social input.

Sebastian Möller is a full professor for Quality and Usability at the Faculty for EE and CS of Technische Universität Berlin, and a Scientific Director at the German Research Center for Artificial Intelligence (DFKI). His focus is on the evaluation of Quality of Experience and User Experience, as well as on speech-based and

text-based interfaces, mostly relying on large foundation models. He has contributed to VR/XR interfaces, and has founded the Berlin XR Lab.

Veronica Hoth is a designer, research assistant at TU Chemnitz, and a doctoral candidate at TU Berlin. Her work focuses on user experience and human-centered design. She conducts research on design ethics to integrate value-oriented design into the human-centered design process through co-design workshops. Her focus lies in considering privacy and diversity in HCI design.

Falko Dressler is full professor for Telecommunication Networks at the School of Electrical Engineering and Computer Science, TU Berlin. His research objectives include next generation wireless communication systems in combination with distributed machine learning and edge computing for improved resiliency. Application domains include the internet of things, cyber-physical systems, and the internet of bio-nano-things.

Stefan Brandenburg is Professor of General Psychology and Human Factors at Chemnitz University of Technology. His work focuses on the methods and explanatory models of human experience and behavior in relation to their interaction with technologies as well as the ethical aspects of the use and development of hybrid work and collaboration of new technologies.

Frauke Mörike heads the Department of Work, Inclusion and Technology at TU Dortmund University. As an ethnologist and business information scientist with many years of practical experience in multinational companies, her research interest is the design of inclusive socio-technical work systems with a special focus on the production conditions of software and the opportunities/risks of new forms of work for participation in work.

Moritz Queisner is a professor in the field of digital health at the Department of Surgery at Charité – Universitätsmedizin Berlin. He is an expert in health technologies with a focus on future applications, technology assessment, knowledge transfer, and design principles in surgery. Moritz has an academic background in media studies, science and technology studies and digital health. His research explores mixed and virtual reality, imaging technologies and 3D/4D simulation in surgery.

Acknowledgements

ChatGpt was used to rephrase the call for participation section. Grammarly was used during editing.

References

- BMBF. [n. d.]. Eckpunkte BMBF-Forschungsdatengesetz BMBF. https://www.bmbf.de/SharedDocs/Downloads/DE/gesetze/forschungsdatengesetz/sonstige/Eckpunktepapier.html
- [2] CHIWORK Collective, Naveena Karusala, Nabil Al Nahin Ch, Diana Tosca, Alberta A Ansah, Emeline Brulé, Nadia Fereydooni, Le-En Huang, Azra Ismail, Pranjal Jain, Yi Xuan Khoo, Isabel Muñoz, Clemens Schartmüller, Himanshu Verma, Preeti Vyas, Susanne CJ Boll, Sarah E Fox, Noopur Raval, Max L Wilson, Anna L Cox, Christian P Janssen, Helena M Mentis, Neha Kumar, Orit Shaer, and Andrew L Kun. 2022. Human-Computer Interaction and the Future of Work. In Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems (CHI EA '22). Association for Computing Machinery, New York, NY, USA, 1–3. https://doi.org/10.1145/3491101.3516407
- [3] John W. Creswell. 2017. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (5th ed.). SAGE Publications.
- [4] Amy Ellard-Gray, Nicole K. Jeffrey, Melisa Choubak, and Sara E. Crann. 2015. Finding the Hidden Participant. *International Journal of Qualitative Methods* 14, 5 (2015). https://doi.org/10.1177/1609406915621420

- [5] European Union. 2024. The Act Texts EU Artificial Intelligence Act. https://artificialintelligenceact.eu/the-act/
- [6] Kazuyuki Fujita, Kazuki Takashima, Yuichi Itoh, and Yoshifumi Kitamura. 2023. Human-Workspace Interaction: prior research efforts and future challenges for supporting knowledge workers. *Quality and User Experience* 8, 1 (Aug. 2023), 7. https://doi.org/10.1007/s41233-023-00060-9
- [7] Ceenu George, Julia Schwuchow, and Heinrich Hussmann. 2019. Fearing Disengagement from the Real World. In Proceedings of the 25th ACM Symposium on Virtual Reality Software and Technology (Parramatta, NSW, Australia) (VRST '19). Association for Computing Machinery, New York, NY, USA, Article 8, 5 pages. https://doi.org/10.1145/3359996.3364273
- [8] Gerit Götzenbrucker, Michaela Griesbeck, and Kai Preibisch. 2022. Qualitative Interviewforschung mit vulnerablen Gruppen: methodologische Reflexionen zum Einsatz von Präsenz-, Telefon- und Videotelefonie-Interviews in einem Forschungsprojekt zu Angst und Mobilität: Forum Qualitative Sozialforschung. 23, 3 (2022). https://doi.org/10.17169/fqs-23.3.3934
- [9] Franziska Günther and Frauke Moerike. 2024. Knocking On Office Doors. In Proceedings of Mensch und Computer 2024, Alexander Maedche, Michael Beigl, Kathrin Gerling, and Sven Mayer (Eds.). ACM, New York, NY, USA, 514–519. https://doi.org/10.1145/3670653.3677497
- [10] Jesper Kjeldskov and Mikael B. Skov. 2014. Was it worth the hassle?: ten years of mobile HCI research discussions on lab and field evaluations. In Proceedings of the 16th international conference on Human-computer interaction with mobile devices & services. ACM, Toronto ON Canada, 43–52. https://doi.org/10.1145/ 2628363.2628398
- [11] Nikola Koschmieder, Sabrina Wyss, and Andreas Pfister. 2021. "Es ist die Suche nach der Nadel im Heuhaufen". MethodologischeReflexionen zur Rekrutierung sozioökonomisch benachteiligterFamilien in qualitativen Studien: / Forum: Qualitative Social Research, Vol. 22 No. 2 (2021): The Refiguration of Spaces and Cross-Cultural Comparison I. 22, 2 (2021). https://doi.org/10.17169/fgs-22.2.3609
- [12] Alexander Krüger, Jan Tünnermann, Lukas Stratmann, Lucas Briese, Falko Dressler, and Ingrid Scharlau. 2021. TVA in the wild: Applying the theory of visual attention to game-like and less controlled experiments. *Open Psychology* 3, 1 (4 2021), 1–46. https://doi.org/10.1515/psych-2021-0001

- [13] Tian Tian Sky Lo, Yuting Chen, Tim Yu Lai, and Andrew Goodman. 2024. Phy-gital workspace: a systematic review in developing a new typological work environment using XR technology to reduce the carbon footprint. Frontiers in Built Environment 10 (July 2024). https://doi.org/10.3389/fbuil.2024.1370423 Publisher: Frontiers.
- [14] Jennifer E. O'Brien, Kathryne B. Brewer, Lisa M. Jones, Jena Corkhum, and Cynthia Fraga Rizo. 2022. Rigor and Respect: Recruitment Strategies for Engaging Vulnerable Populations in Research. *Journal of interpersonal violence* 37, 17-18 (2022), NP17052–NP17072. https://doi.org/10.1177/08862605211023497
- [15] Moritz Queisner, Michael Pogorzhelskiy, Christopher Remde, Johann Pratschke, and Igor M. Sauer. 2022. VolumetricOR: A New Approach to Simulate Surgical Interventions in Virtual Reality for Training and Education. Surgical Innovation 29, 3 (2022), 406–415. https://doi.org/10.1177/15533506211054240 arXiv:https://doi.org/10.1177/15533506211054240 PMID: 35137646.
- [16] Francesco Vona, Maximilian Warsinke, Tanja Kojić, Jan-Niklas Voigt-Antons, and Sebastian Möller. 2025. User-Centric Evaluation Methods for Digital Twin Applications in Extended Reality. In 2025 IEEE International Conference on Artificial Intelligence and eXtended and Virtual Reality (AIxVR). 142–146. https://doi.org/10.1109/AIxVR63409.2025.00028
- [17] Carola Weidmann, Eileen Roesler, and Eva Wiese. 2024. Designing Social Educational Robots: How User Participation Shapes Acceptance. In Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction (Boulder, CO, USA) (HRI '24). Association for Computing Machinery, New York, NY, USA, 1114–1118. https://doi.org/10.1145/3610978.3640601
- [18] Katharina Weitz, Ruben Schlagowski, Elisabeth André, Maris Männiste, and Ceenu George. 2024. Explaining It Your Way - Findings from a Co-Creative Design Workshop on Designing XAI Applications with AI End-Users from the Public Sector. In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (Honolulu, HI, USA) (CHI '24). Association for Computing Machinery, New York, NY, USA, Article 745, 14 pages. https://doi.org/10.1145/ 3613904.3642563
- [19] Eva Wiese, Tyler Shaw, Daniel Lofaro, and Carryl Baldwin. 2017. Designing Artificial Agents as Social Companions. Proceedings of the Human Factors and Ergonomics Society Annual Meeting 61, 1 (2017), 1604–1608. https://doi.org/10. 1177/1541931213601764