10^{th} International Workshop on Mental Health and Well-being: From Research to Practice in Mental Healthcare

Hyeokhyen Kwon
Emory University
Atlanta, United States
hyeokhyen.kwon@emory.edu

Talayeh Aledavood
Aalto University
Helsinki, Finland
talayeh.aledavood@aalto.fi

Daniel A. Adler
Cornell Tech
New York, United States
dadler@infosci.cornell.edu

Xuhai Xu
Columbia University
New York, United States
xoxu@mit.edu

Asif Salekin
Arizona State University
Tempe, United States
asalekin@syr.edu

Varun Mishra
Northeastern University
Boston, United States
v.mishra@northeastern.edu

Sang Won Bae
Stevens Institute of Technology
Hoboken, United States
sang.won.bae@stevens.edu

Akane Sano
Rice University
Houston, United States
akane.sano@rice.edu

Saeed Abdullah
Pennsylvania State University
University Park, United States
saeed@psu.edu

Yiran Zhao
Cornell University
New York, United States
yz2647@cornell.edu

Manasa Kalanadhabhatta
Meta Reality Labs
New York, United States
kalanadhabhatta@meta.com

Han Zhang
University of Washington
Seattle, United States
micohan@cs.washington.edu

Elizabeth L. Murnane
Dartmouth College
Hanover, United States
emurnane@dartmouth.edu

Tanzeem Choudhury
Cornell Tech
New York, United States
tanzeem.choudhury@cornell.edu

Jakob E. Bardram
Technical University of Denmark
Kgs. Lyngby, Denmark
jakba@dtu.dk

Mirco Musolesi
University College London
London, United Kingdom
m.musolesi@ucl.ac.uk

Zachary D. King
Rice University
Houston, United States
zdk2@rice.edu

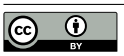
Helma Torkamaan
Delft University of Technology
Delft, the Netherlands
h.torkamaan@tudelft.nl

Manas Satish Bedmutha
UC San Diego
La Jolla, United States
mbedmutha@ucsd.edu

Thalia Viranda
Cornell Tech
New York, United States
tv74@cornell.edu

Abstract

Ubiquitous computing technologies (UbiComp) are emerging as crucial tools for collecting behavioral, physiological, social, and environmental data to enable early symptom detection, deliver preventative interventions, and support ongoing symptom management. With decades of success in demonstrating the feasibility of using UbiComp technologies to support well-being and mental health in general populations, researchers are exploring the use of these technologies for clinical populations living with mental illness, such as schizophrenia. However, designing, implementing, and validating these technologies in a clinical setting is complex and faces multiple challenges, including ensuring clinical relevance, developing novel analytics systems, integration into existing care systems, user engagement, ethical considerations, and long-term feasibility. This workshop aims to bring together researchers, service providers, practitioners, and industry professionals to collaboratively explore these challenges and discuss strategies for evaluating and validating these technologies in real-world clinical settings. We are calling for papers that inspire new research directions, including co-designing systems with multiple healthcare stakeholders. Building on nine years of success, we continue to support the UbiComp community in advancing reliable, responsible, and effective mental health technologies that can potentially extend UbiComp technologies to support improving patient outcomes in clinical settings at scale.



UbiComp Companion '25, Espoo, Finland

ACM ISBN 979-8-4007-1477-1/2025/10
https://doi.org/10.1145/3714394.3750563

CCS Concepts

• **Applied computing → Health care information systems**.

Keywords

Mental Health; Mobile Sensing; mHealth; Predictive Modeling; Behavioral Intervention; HCI

ACM Reference Format:

Hyeokhyen Kwon, Talayeh Aledavood, Daniel A. Adler, Xuhai Xu, Asif Salekin, Varun Mishra, Sang Won Bae, Akane Sano, Saeed Abdullah, Yiran Zhao, Manasa Kalanadhabhatta, Han Zhang, Elizabeth L. Murnane, Tanzeem Choudhury, Jakob E. Bardram, Mirco Musolesi, Zachary D. King, Helma Torkamaan, Manas Satish Bedmutha, and Thalia Viranda. 2025. 10^{th} International Workshop on Mental Health and Well-being: From Research to Practice in Mental Healthcare. In *Companion of the 2025 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp Companion '25), October 12–16, 2025, Espoo, Finland.* ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3714394.3750563

1 Introduction

Mental illness is rising globally, with over 750 million affected in 2021 [7]. The COVID-19 pandemic has exacerbated this trend. Mental illness leads to disability, premature mortality, and a significant economic burden, costing the global economy $5 trillion annually [5, 21]. Despite these challenges, many symptoms remain undetected and untreated [20], especially in developing countries due to a shortage of mental health providers [11]. Countries like the U.S. are also facing a projected 20% decrease in mental health workers over the next decade [22]. Efforts to improve detection and intervention include a $200 million investment by the White House and calls for an integrated EU mental health strategy [8, 19].

Ubiquitous technologies provide a unique opportunity to advance these priorities by remotely and continuously capturing behavioral, physiological, social, and environmental data associated with mental health and well-being at a low cost. These data can be used to uncover opportune moments for delivering interventions. This promise has resulted in over a decade of research by the UbiComp community applying wearable, mobile, video, audio, and other ubiquitous technologies towards both sensing symptoms of and intervening in a variety of mental health conditions [1, 2, 4, 6, 9, 10, 14, 23, 25–27]. While this research illustrates the motivation for sensing and intervention systems to positively impact mental healthcare, translating these ubiquitous technologies into care remains difficult, and multiple challenges persist in developing effective solutions that improve mental health and well-being.

Recently, multiple studies started exploring the application ubiquitous computing for clinical populations living with serious mental illness, including schizophrenia, major depressive disorder, autism, dementia, etc [12, 13, 24]. This **shift in paradigm** (UbiComp for improving patient outcomes in clinical population living with mental illness) invites new challenges for both technical and sociotechnical research towards the effective implementation of these tools. Future research must advance how contextual data from lived environments is captured to improve passive sensing–mental health AI tools, optimize just-in-time interventions, process dense multimodal sensor data, and integrate systems into clinical care through co-development with patients and providers. It should also focus on presenting actionable insights, developing privacy-preserving algorithms, fusing sensing and clinical data, and leveraging ubiquitous computing and generative AI for personalized interventions. From a sociotechnical perspective, priorities include designing engaging, equitable tools, embedding interventions into clinical pathways, validating efficacy, and creating regulatory and reimbursement models to enable sustainable adoption. In the U.S., commercialization is critical, as healthcare institutions rely on insurance-based purchasing and proven clinical utility. Addressing these challenges requires interdisciplinary collaboration to effectively deploy ubiquitous technologies for mental health.

2 Workshop Objective

While research into ubiquitous computing technologies for mental health has rapidly grown, concerns persist that many studies lack real-world relevance, clinician input, and consideration of healthcare infrastructure constraints. The objective of this workshop is to bring together researchers, clinicians, practitioners, and industry professionals with both technical and clinical expertise to address the abovementioned challenges by exploring novel technologies, analytic methodologies, and design approaches that advance the development and implementation of ubiquitous computing systems for mental health in both general and clinical populations, including clinical settings. The long-term vision of this workshop is to provide platforms for experts from academia, healthcare, and industry to develop a network and novel ideas to develop Ubicomp research that has a pathway to real-world impact.

Past UbiComp Workshops on Mental Health and Well-being have successfully convened a multidisciplinary community to engage with these topics (more information on previous workshops is available at https://ubicomp-mental-health.github.io/). There have been numerous examples of papers (in UbiComp/IMWUT and related venues) and grants that have come out of works presented and collaborations formed at this workshop over the years [3, 15–18] The discussions also include collaboration across industries, such as startups, and academic institutes.

Building on the insights gathered from prior years, this year's workshop has refined and broadened its focus and scope for its **timeliness and relevance** for rapidly evolving the field of mental health research in the UbiComp community. We are introducing a **special call for workshop papers that inspire new research directions, particularly those highlighting the real-world impact of UbiComp research on mental healthcare**. We encourage submissions that present early-stage findings or exploratory ideas that may not yet be fully developed for archival publication but are valuable to the community. Relevant topics may include, but are not limited to:

- Ethical frameworks or datasets for deploying technologies, particularly in underserved communities or clinical groups.
- Clinical experience reports, from pilot studies to large-scale trials.
- UbiComp solutions addressing mental health impacts of environmental and societal challenges.
- Emerging interventions using conversational agents, AR/VR, and other novel UbiComp sensor systems.

- Frameworks for sustaining ubiquitous technologies in healthcare infrastructures and daily life (barriers, engagement, adherence, cultural responsiveness, policy, reimbursement, regulation).
- Fairness, bias, and privacy analyses in mental health technologies.
- Platforms for data collection and feedback (e.g., mobile, wearables, smart homes).
- Explainable AI for clinical decision support.
- Adaptable ML models across diverse populations and over time.
- Multisensor and edge-cloud integration in clinical environments for clinical decision support.

2.1 Types of Submissions and Selection Criteria

We will accept submissions up to 6 pages, including figures and references. The 6 pages are not a requirement; shorter submissions (e.g., 3 pages) are welcome. Papers should be submitted using the UbiComp/ISWC 2025 proceedings format, see the UbiComp website (link) for more details. Specific types of papers include:

- Scientific papers describing novel technologies, approaches, and studies related to ubiquitous computing and mental health. We encourage these submissions to focus on learnings that are beneficial for the community and not finished contributions.
- Challenge papers, in which authors describe a specific challenge to be pitched and discussed at the workshop. These papers often lead to a lively discussion during the workshop and to new directions for future work.
- Demonstrations, to facilitate authors demonstrating developed technologies and early systems at the workshop.
- Experience reports that can introduce novel perspectives on real-world implementation, such as in clinical settings or historically underserved communities.
- Critical reflections of one's own research or existing research at the intersection of ubiquitous computing and mental healthcare. We expect critical reflection papers to contribute towards better research practices in the community.
- Dataset papers to advance analytical methods.

All submitted papers will be reviewed and judged on originality, technical correctness, relevance, and quality of presentation. We explicitly invite submissions of papers that describe preliminary results or works in progress, including early translational experiences. The accepted papers will appear in the UbiComp supplemental proceedings and the ACM Digital Library. Authors of accepted papers will be invited to present their work in person and receive feedback from attendees. We plan to have a fully in-person workshop in Espoo, Finland.

2.2 Expected Attendance

The workshop attendees will include UbiComp attendees, authors of accepted papers, as well as keynote speakers. Our workshop regularly had approximately 50 attendees, which we expect the same this year. But, we do not plan to limit attendance.

2.3 Preparation and Planned Activities

Upon workshop acceptance, we plan to update the prior year's website (see https://ubicomp-mental-health.github.io/) with key information about the 2025 workshop, including the workshop overview, call for participation, important dates for workshop paper submission, and formatting instructions. The organizers will then advertise the workshop to recruit authors, speakers, panelists, and mentors for participation. In addition, we will coordinate with the UbiComp organizing committee on the physical infrastructure (e.g., room, food/drink, audiovisual setup) necessary for a successful workshop. One of the co-organizers of our workshop (TA) is a local chair of the UbiComp, which will further facilitate our organizational needs. Organizers will conduct all paper reviews, and send out notifications of paper acceptance as well as registration information to authors.

We are planning for a 1-day workshop. Table 1 shows the tentative workshop schedule. A summary of the planned workshop activities includes:

Networking: Opportunities for attendees to interact, share ideas, and build collaborations.

Keynote speakers: We will invite keynote speakers from both academia and industry to talk about their work. We already identified a keynote speaker local to Finland or neighboring countries, as well as a speaker to highlight opportunities to use ubiquitous computing technologies to improve mental healthcare in clinical settings.

Paper feedback session (1.5 hours): The papers will mostly include unfinished work, but with innovative ideas. The paper feedback session will start with 3-minute presentations for each paper. Next, each paper (and author) will be assigned to a table, where attendees will rotate discussion tables for each paper (15-20 minutes each) so that the presenter can receive diverse feedback. This format was exceptionally effective, and presenters reported high satisfaction with collecting diverse ideas to improve papers for IMWUT (or other venues) submission. The attendees could also learn more about each work. According to the time, presenters will summarize the feedback they receive to share with all audiences (3-5 minutes each). The session will be moderated to fit in time efficiently, and the organizers already have experience from past workshops.

Group discussions: The diverse topics allows discussants to bring up different personal experiences and interpret the topics independently. Here is the breakdown of the 2 hours:

- Lighting talks where discussion moderators to present topics (20 minutes)
- 1 hour discussion in small groups for each topic (8-10 participants per group)
- 40-minute full-workshop discussion: moderators present discussion outcomes, and discuss with the broader workshop attendees

Best paper award and honorable mentions: The organizing committee will select one or two papers for the Best Paper Award and Honorable Mentions at the Closing Remark.

Organizers already have experience in moderating the proposed format successfully, and our group discussion format has been well appreciated by attendees for many years.

2.4 Organizers' Backgrounds

Organizers include both leading academics (Kwon, Aledavood, Mishra, Xu, Bae, Sano, Bardram, Abdullah, Murnane, Choudhury, Musolesi, Salekin, Torkamaan), PhD students (Adler, Zhao, King,

Morning Session	
Time (AEST)	**Activity**
09:00–09:30	Opening remarks
09:30–10:30	Keynote speaker 1
10:30–11:00	Speed networking and coffee break
11:00–12:30	Workshop paper feedback sessions
12:30–14:00	Networking lunch with workshop attendees
14:00–16:00	**Group discussion. Potential topics**: AI in mental health and UbiComp UbiComp, mental health, climate change, and geopolitical challenges, Mental health tech for underserved communities Translating research into clinical care Funding and publishing strategies Interdisciplinary collaborations Ethics and privacy Entrepreneurship and commercialization
16:00–17:00	Keynote speaker 2
17:00–17:30	Closing remarks and Best paper Award
18:00–20:00	Networking dinner with workshop attendees

Table 1: Tentative workshop schedule.

Zhang, Bedmutha, Viranda), and industry professionals (Kalanadhabhatta) at the intersection of ubiquitous computing and mental health.

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